PB87-189957

Superfund Record of Decision (EPA Region 2)
Metaltec/Aerosystems
Franklin Borough, New Jersey, June 1986

(U.S.) Environmental Protection Agency
Washington, DC

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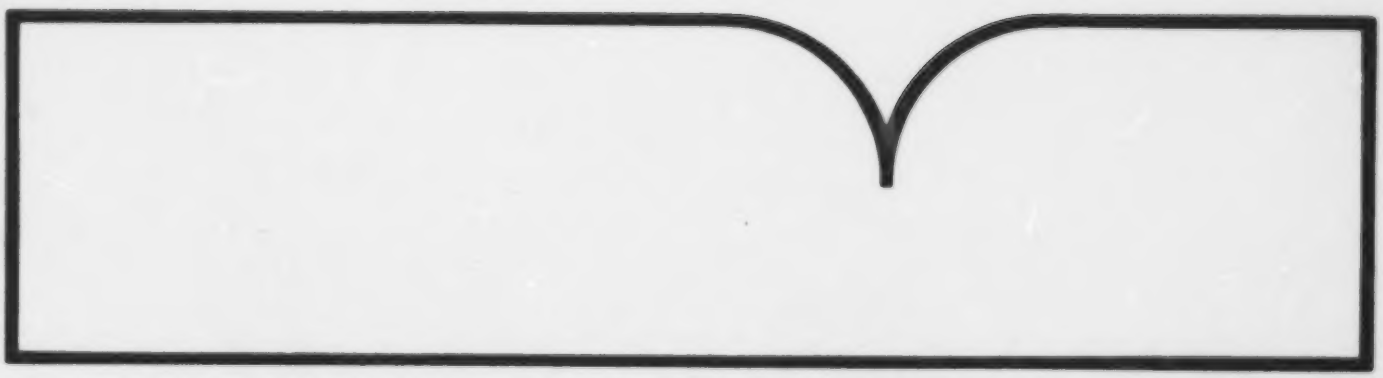

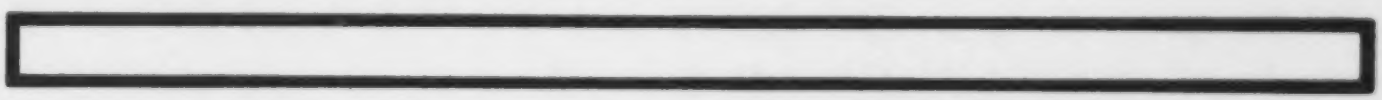

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EPA/ROD/R02-86/025
June 1986

PB87-189957

EPA

Superfund Record of Decision:

Metaltec/Aerosystems, NJ

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16. ABSTRACT

The Metaltec/Aerosystems site is located at the intersection of Maple, Gibson, and Wildcat Roads in Franklin Borough, Sussex County, New Jersey. The property consists of an abandoned manufacturing facility that once produced metal ballpoint pen casings, paint spray guns, lipstick cases and other assorted metal parts. The site is presently used to assemble ice machines and the manufacture of glassware for research purposes. In its current state, the site contains several sources of hazardous substances that pose a threat to public health and the environment. These sources include a back filled lagoon area, two open areas which adjoin the Metaltec building, and an open parcel of land located near the swamp at the northeast corner of the site. These parcels of property exhibit high levels of pollutants and contaminants in the soil and the underlying ground water. Hazardous substances detected include trichloroethylene, trans-1,2-dichloroethene, vinyl chloride, and copper.

The cost-effective remedial action selected for this site includes: excavation and treatment via heat addition (rotary dryer) of approximately 10,000 cubic yards of organic contaminated soils within Parcel 1 and offsite disposal at an approved landfill; excavation and offsite disposal of approximately 4,000 cubic yards of contaminated soils within Parcels 2, 3, and 4; preparation of a supplemental RI and FS to identify the extent of ground water contamination and develop and evaluate appropriate remedial

(See Attached Sheet)

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Record of Decision Metaltec/Aerosystems, NJ Contaminated Media: gw, soil Key contaminants: VOCs, heavy metals, TCE, vinyl chloride		

18. DISTRIBUTION STATEMENT	19. SECURITY CLASS *(This Report)* None	21. NO. OF PAGES 81
	20. SECURITY CLASS *(This page)* None	22. PRICE

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EPA/ROD/R02-86/025
Metaltec/Aerosystems,NJ

16. ABSTRACT (continued)

alternatives; and provision of an alternate water supply for affected Borough of Franklin residents by constructing a pipeline connection to the Borough of Hamburg public water supply system. The estimated capital cost for the selected alternative with disposal in a sanitary landfill is $7,005,000 and with disposal in a RCRA landfill is $11,735,000. The annual O&M cost is $179,000.

RECORD OF DECISION

REMEDIAL ALTERNATIVE SELECTION

Site Metaltec/Aerosystems, Franklin Borough, New Jersey

Documents Reviewed

I am basing my decision on the following documents describing the analysis of cost-effectiveness of remedial alternatives for the Metaltec/Aerosystems site:

- Metaltec/Aerosystems Remedial Investigation Report, Camp Dresser and McKee, May 1986.

- Metaltec/Aerosystems Feasibility Study of Alternatives, Camp Dresser and McKee, May 1986.

- Staff summaries and recommendations.

- Responsiveness Summary, June 1986.

Description of Selected Remedy

- Excavation and treatment via heat addition (rotary dryer) of approximately 10,000 cubic yards of organic-contaminated soils within Parcel 1 and off-site disposal at an approved landfill.

- Excavation and off-site disposal at an approved landfill of approximately 4,000 cubic yards of contaminated soils within Parcels 2, 3 and 4.

- Preparation of a supplemental remedial investigation and feasibility study to identify the extent of groundwater contamination and develop and evaluate appropriate remedial alternatives.

- Provision of an alternate water supply for affected Borough of Franklin residents by constructing a pipeline connection to the Borough of Hamburg public water supply system.

Declarations

Consistent with the Comprehensive Environmental Response, Compensation and Liability Act of 1980, and the National Oil and Hazardous Substances Contingency Plan (40 CFR Part 300), I have determined that the remedy described above is an operable unit involving control of the source of the contamination which is cost-effective and consistent with a permanent remedy.

It is hereby determined that implementation of this remedy is the lowest cost alternative that is technologically feasibile and reliable, and which effectively mitigates and minimizes damages to and provides adequate protection of public health, welfare and the environment. Implementation of this operable unit is appropriate at this time, pending a determination of the need for any further remedial actions. It is also hereby determined that implementation of the selected remedy is appropriate when balanced against the availability of Trust Fund monies for use at other sites.

The State of New Jersey has been consulted and agrees with the selected remedy.

June 30, 1988
Date

Christopher J. Daggett
Christopher J. Daggett
Regional Administrator

SUMMARY OF REMEDIAL ALTERNATIVE SELECTION

METALTEC/AEROSYSTEMS SITE

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2. Written Public Comments

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SUMMARY OF REMEDIAL ALTERNATIVE SELECTION

METALTEC/AEROSYSTEMS SITE
FRANKLIN, NEW JERSEY

SITE LOCATION AND DESCRIPTION

The Metaltec/Aerosystems site ("the site") is located at the intersection of Maple, Gilson and Wildcat Roads in Franklin Borough, Sussex County, New Jersey (see Figure 1). It is approximately one mile northeast of Route 23. The sixteen-acre property is designated on Franklin Borough tax maps as Lot 63, Block 7 and Lot 64, Block 1.04. The property consists of an abandoned manufacturing facility that once produced metal ballpoint pen casings, paint spray guns, lipstick cases, and other assorted metal parts (see Figure 2).

The site is presently used by Clawson Corporation, a subsidiary of Aerosystems Technology Corporation, to assemble ice machines; and Sussex Scientific, which is involved in the manufacture of glassware for research purposes. In its current state, the site contains several sources of hazardous substances that pose a threat to public health and the environment. These sources include the following:

1. a backfilled lagoon area located north of the Metaltec Corporation building;

2. two (2) open areas which adjoin the Metaltec building; and

3. an open parcel of land located near the swamp at the northeast corner of the site.

All these parcels of property exhibit high levels of pollutants and contaminants in the soil and the underlying groundwater. Many of the substances detected at these parcels are hazardous substances, within the meaning of that term as defined in Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) 42 U.S.C. 9601(14).

The site is located in a rural residential setting. The nearest residence to the Metaltec/Aerosystem site is a house located 600 feet south of the Metaltec plant. In addition, there are several homes adjacent to the site boundaries, a golf course to the northeast, and a farm to the northwest.

The Metaltec/Aerosystem site is located in the New Jersey Highlands physiographic province. The topography in Highlands is characterized by several northeast-southwest ridges separated by steep, poorly drained stream valleys. The site is located in a valley drained by a small, unnamed, northward-flowing stream. The well borings indicate the presence of three geologic formations local to the site. A basement complex of Precambrian

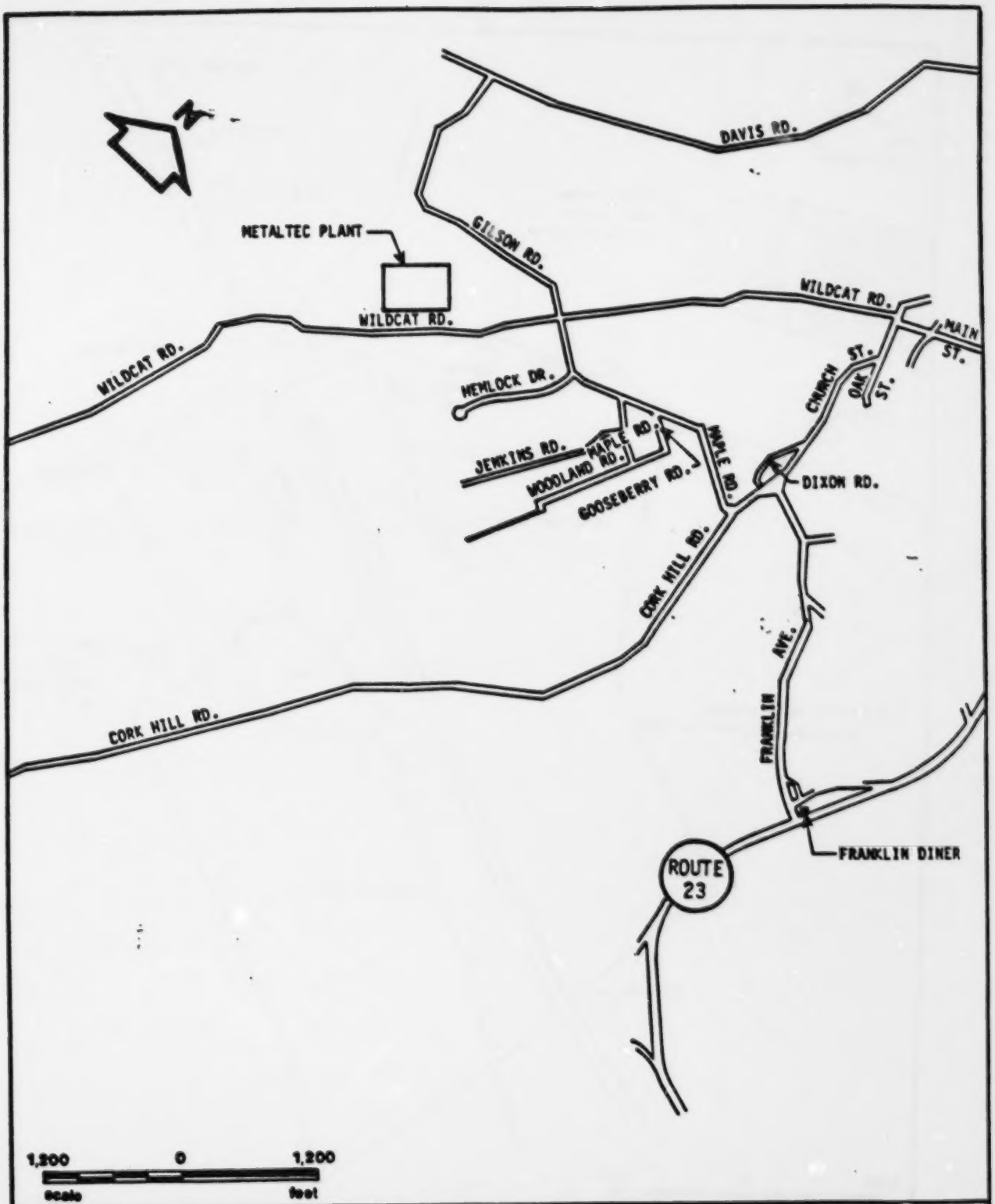

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Figure 1
ROAD MAP
(NOVEMBER 5, 1975)
BOROUGH OF FRANKLIN
METALTEC/AEROSYSTEMS, FRANKLIN, NEW JERSEY

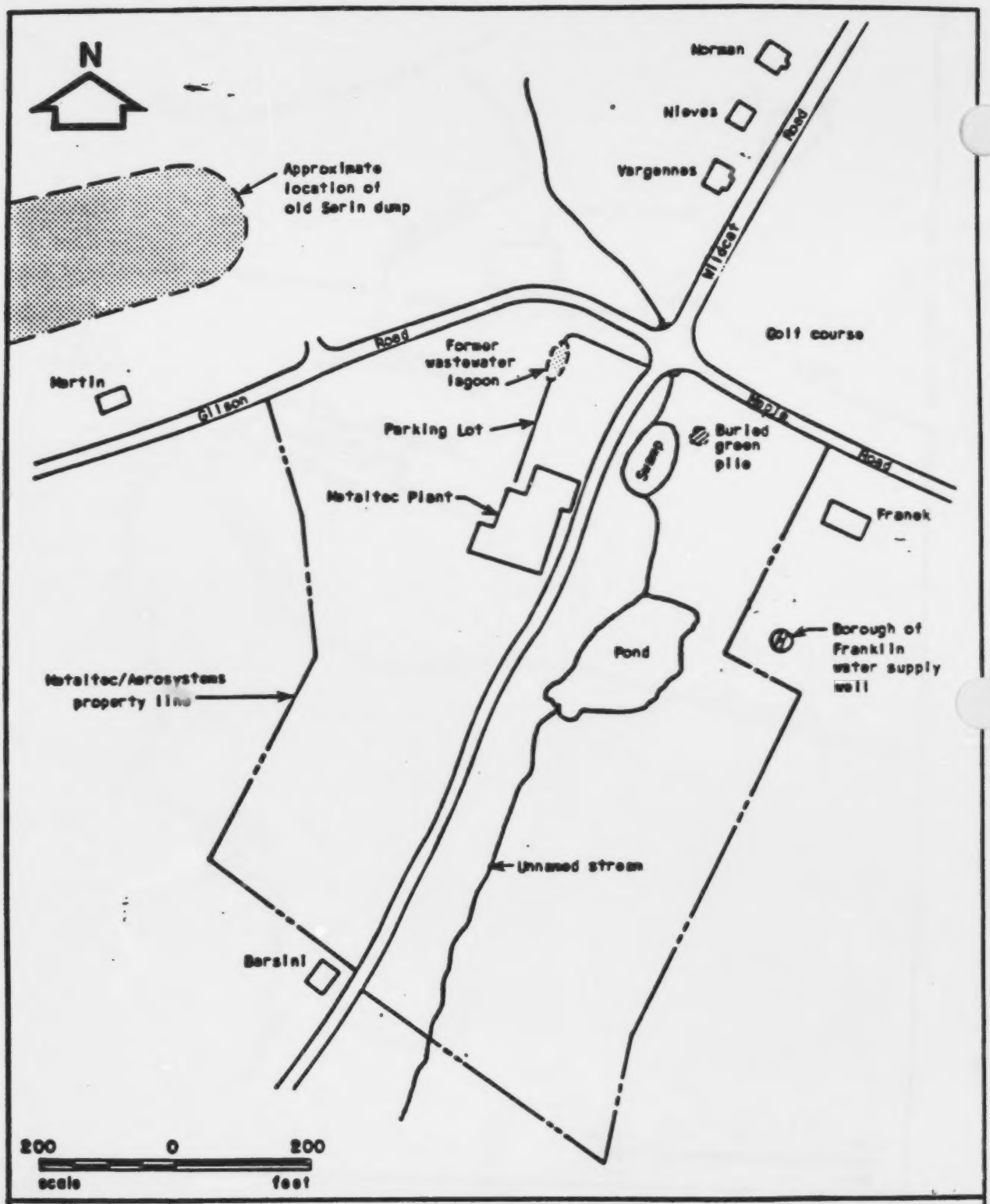

Figure 2

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METALTEC/AEROSYSTEMS SIT
METALTEC/AEROSYSTEMS, FRANKLIN, NEW JERSE

age lies beneath the site, to the east lies the Franklin Formation of Precambrian age. Also located adjacent to the site is the Kittatinny Formation of Cambrian-Ordovician age. The Precambrian Gneiss contains two distinct aquifers, the surficial aquifer and the bedrock aquifer. Both of these aquifers have been contaminated with organic chemicals emanating from the lagoon area at the Metaltec site. The flow of both aquifers is to the northwest under static conditions. A municipal supply well is located 250 feet east of the site and is set in the bedrock aquifer. The borough's main water supply is Franklin Pond, located three-quarters of a mile to the northeast.

SITE HISTORY

The Metaltec Corporation, a subsidiary of the Aerosystems Technology Corporation, operated a metal-plating business from 1965 to mid-1980 when the manufacturing operation moved to a new industrial park. The operation is currently owned by Aerosystems Technology, whose president is Charles Fletcher. Mr. Fletcher purchased the property in 1965 from Andrew Serin who was also involved in plating activities.

In April 1980, the New Jersey Department of Environmental Protection (NJDEP), Division of Water Resources began an investigation at the Metaltec site. The NJDEP initially focused its investigation on an unlined waste water lagoon at the facility west of Wildcat Road. Analytical results indicated the presence of high concentrations of several organic compounds in the wash water samples, and metals and oil in the sediments. The organic compounds found were 1,2-dichloroethene, tetrachloroethene, trichloroethene (TCE), and trichloroethane. The heavy metals found in high concentrations were nickel and chromium. These results further indicated that other pollutants may have been discharged into the unlined lagoon and onto the grounds.

NJDEP staff also identified several areas of dumped and spilled materials near the Wildcat and Maple Roads intersection. On November 13, 1980, a pile of green material was observed in this area (see Figure 2). Analyses of samples collected from one of the piles showed high concentrations of metals and organic compounds.

Subsequently, NJDEP analyzed water samples from several private potable wells, the Metaltec process well, and from the nearby Borough of Franklin public water supply well in August and September 1980. These analyses revealed that the borough water supply well and three private domestic wells were contaminated with organic chemicals indentical to many of those found at the Metaltec site. As a result, the borough's water supply well and three residential wells were removed from service in September 1980.

NJDEP issued an administrative order to the Metaltec Corporation in June 1981 to clean up existing contamination and to conduct an extensive hydrogeologic study. In August 1981, an unknown quantity of material was excavated from the former lagoon area and the green pile area. The Metaltec Corporation hired Dunn Geoscience to conduct a study of the area, but the firm never fully complied with the administrative order. In May 1984, EPA took the lead on the site activities.

CURRENT SITE STATUS

Gross soil and groundwater contamination have been documented at and in the vicinity of the Metaltec/Aerosystems site. Four discrete parcels of property exhibiting high levels of hazardous substances have been identified on the Metaltec property (see Figure 3). These parcels contain both organic and inorganic contamination. Although no uniform pattern was observed, the soil within one of the parcels does contain high concentrations of volatile organic contamination. In addition, the overburden and bedrock aquifers beneath the site exhibit contamination from both organic and inorganic hazardous substances. A series of 15 test pits and nine hand auger samples were taken in the vicinity of the Metaltec facility. A monitoring-well network was developed which included nine off-site potable wells, the Maple Road Borough Supply Well, five bedrock and overburden well clusters and three additional overburden wells. A total of 13 monitoring wells were installed both on and off the Metaltec site. All wells were sampled in the late summer and early fall of 1985. The purpose of this sampling and monitoring effort was to define the nature and extent of the soil, ground and surface water contamination at the site. In addition, a 72-hour pump test was conducted on the Franklin Borough Maple Road Well. The test concluded that there is a hydraulic connection between the area monitoring wells under pumping conditions.

Parcel 1 includes a portion of land on the Metaltec property now used as a part of the employee parking lot and a privately owned horse corral area across Gilson road (see Figure 3). A waste water lagoon, which has subsequently been backfilled, once occupied the parking lot area. It is alleged that an overflow drainage culvert in the area of the horse corral existed at one time. This parcel is conservatively estimated to contain 10,000 cubic yards of soils contaminated by hazardous substances. Three test pits (T1, T2, T3) were dug in the abandoned lagoon area, and two test pits (T13, T14) were dug in the Vargennes horse corral (see Figure 4). In addition, four hand auger samples were taken of the surficial soils, numbers HA4, HA5, HA8 and HA9, during the first phase of the remedial investigation in June 1985 (see Figure 5). A total of five composite and one discrete subsurface soil sample were taken from the test pits and analyzed (see Table 1). A total of four surficial soil samples were taken and analyzed (see Table 2). In addition, one bedrock well, BR4, and two overburden wells, OB4A and OB4B, were drilled in the area of the former lagoon (see Figure 6).

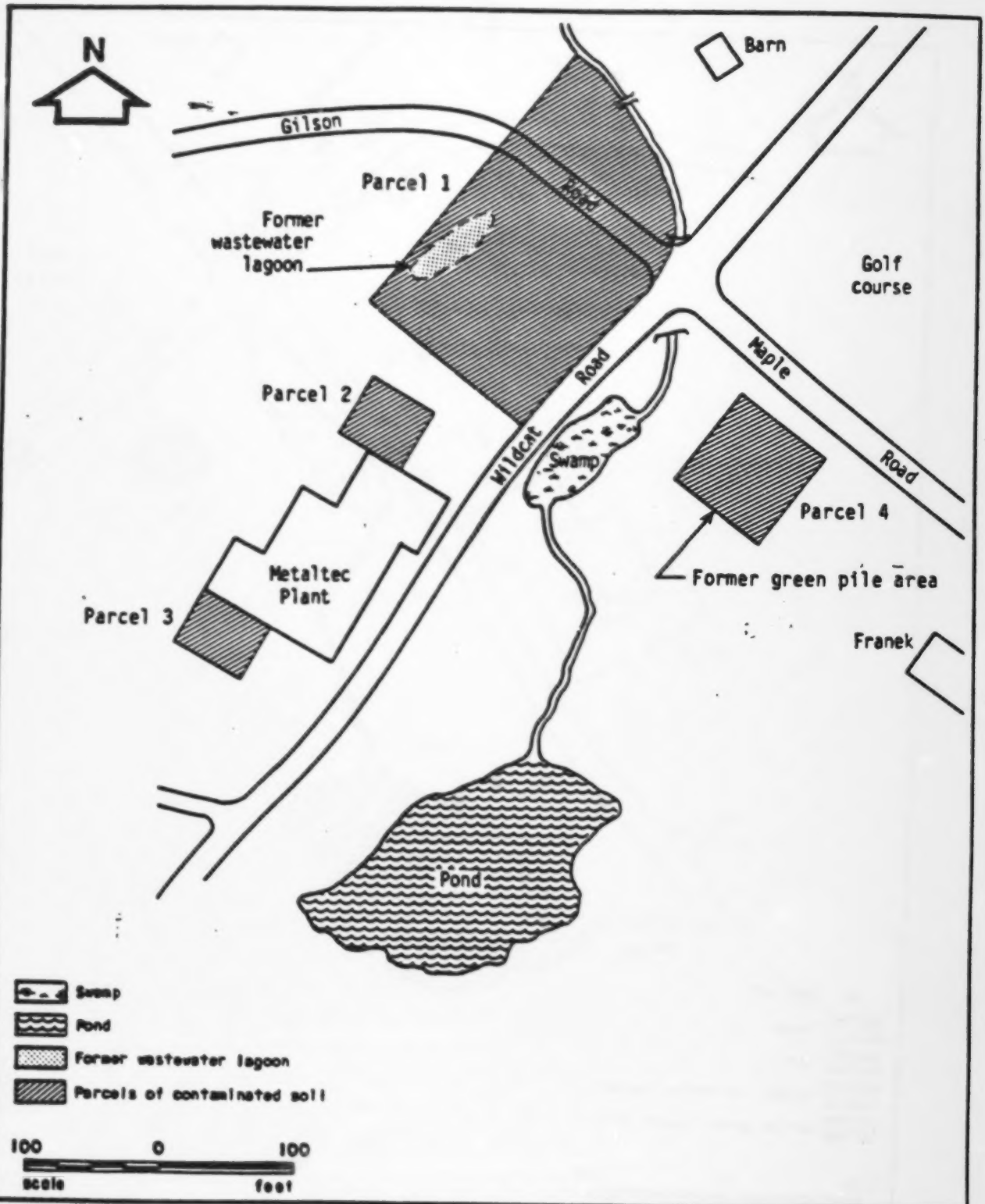

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Figure 3

CONTAMINATED SOIL PARCELS
METALTEC/AEROSYSTEMS, FRANKLIN, NEW JERSEY

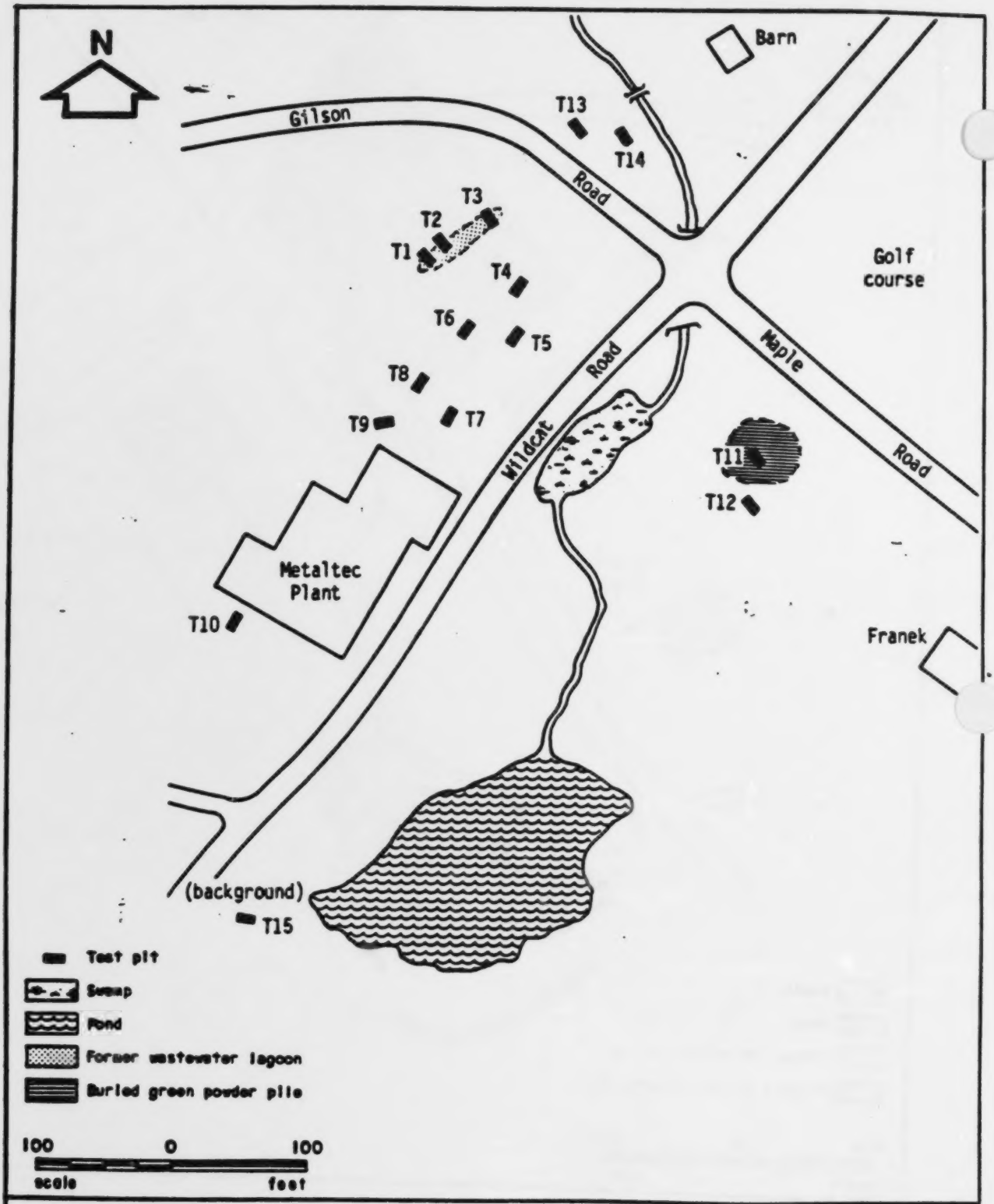

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Figure 4

TEST PIT LOCATION
METALTEC/AEROSYSTEMS, FRANKLIN, NEW JERSE

TABLE 1

DETECTED COMPOUNDS IN COMPOSITE TEST PITS 1 THROUGH 6

Contaminant	TP 1 Composite 6/25/85 (ug/kg)	TP 2 Composite 6/25/85 (ug/kg)	TP 2 Duplicate 6/25/85 (ug/kg)	TP 3 Composite 6/25/85 (ug/kg)	TP 4 Composite 6/25/85 (ug/kg)	TP 5 Composite 6/25/85 (ug/kg)	TP 6 Composite 6/25/85 (ug/kg)
Volatile Organic Compounds:							
Methylene chloride	150,000 *F			1,100 *F	7,200 F	2,000 F	430 *F
Acetone	670,000 F						
trans-1,2-Dichloroethene	6,600,000 F	8,300 F		6,500 F			
2-Butanone		53,000 F	10,000 F	37,000 F	260,000 F	56,000 F	
1,1,1-Trichloroethane		1,700 F		1,400 F			
Trichloroethene	7,600,000 F						
2-Hexanone					17,000 F		
Tetrachloroethene	710,000 F	1,100 *F		850 *F			
Toluene	110,000 *F	1,400 F	360 *F	850 *F	2,900 *F	580 *F	
Total xylenes		5,500 F		570 *F			
Semivolatile Organic Compounds:							
Hexachloroethane					380		
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Inorganics:							
Aluminum	5,200 *	7,300 *	7,000 *	8,000 *	6,400 *	13,000 *	5,700 *
Antimony	130 *	40 *	40 *	30 *	30 *	30 *	30 *
Arsenic	7 *			6 *	6 *	6 *	6 *
Barium	100 *	100 *	100 *	100 *	100 *	100 *	100 *
Beryllium	3 *	3 *	3 *	2 *	2 *	2 *	2 *
Calcium	54,000 *	38,000 *	32,000 *	32,000 *	39,000 *	1,000 *	60,000 *
Chromium	8,000	1,700	910	50	20		20
Cobalt	30 *	30 *	30 *	20 *	20 *	20 *	20 *
Copper	3,400	2,400	2,600	91			
Iron	9,300	15,000	13,000	19,000	15,000	24,000	12,000
Lead	29	34	40	9.1	5	12	6.8
Magnesium	19,000 *	21,000 *	17,000 *	18,000 *	26,000 *	2,000 *	37,000 *
Manganese	290 *	390 *	340 *	460 *	280 *	510 *	370 *
Nickel	30 *	30 *	30 *	20 *	20 *	20 *	20 *
Potassium				2,000 *	2,000 *	2,000 *	2,000 *
Selenium	4 *			3 *	3 *	3 *	3 *
Thallium	7 *			6 *	6 *	6 *	6 *
Tin	40 *	30 *	30 *	20 *	20 *	20 *	20 *
Vanadium	10 *	20 *	20 *	30 *	20 *	30 *	20 *
Zinc	1,000	800	940	74	50	62	40

*Estimated value. Compound is below detection limit, but mass spectral data indicates the presence of a compound
F Compound failed QA/QC.

TABLE 1 (Con't)

DETECTED COMPOUNDS IN COMPOSITE TEST PITS 7 THROUGH 15

Contaminant	TP 7 Composite 6/26/85 (ug/kg)	TP 8 Composite 6/27/85 (ug/kg)	TP 9 Composite 6/26/85 (ug/kg)	TP 10 Composite 6/27/85 (ug/kg)	TP 11 Composite 6/27/85 (ug/kg)	TP 12 Composite 6/27/85 (ug/kg)	TP 13 Composite 6/26/85 (ug/kg)	TP 14 Composite 6/26/85 (ug/kg)	TP 15 Background 6/27/85 (ug/kg)
Volatile Compounds:									
Methylene chloride	2 eF	2 eF	3 eF	2 eF		2 eF	3 eF	3 eF	2 eF
Acetone		2 eF		4 eF	2 eF				6 eF
4-Methyl-2-pentanone			6 eF						
Tetrachloroethene			2 eF		28	2 eF	2 eF	2 eF	
Semivolatile Compounds:									
4-Methylphenol				150 e					
Hexachloroethane			410						
Isophorone				8,300					
Naphthalene				1,000					
2-Methylnaphthalene				9,500					
Di-n-butylphthalate				650					
bis(2-Ethylhexyl)phthalate				4,100					41 e
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Inorganics:									
Aluminum	5,500 e	14,000 e	11,000 e	16,000 e	13,000 e	17,000 e	7,100 e	5,500 e	18,000 e
Antimony	30 e	40 e	40 e	40 e	40 e	40 e	40 e	40 e	40 e
Arsenic	6 e	6 e	6 e	7 e	6 e	7 e			9
Barium	100 e	100 e	100 e	100 e	100 e	100 e	100 e	100 e	100 e
Beryllium	2 e	2 e	2 e	3 e	2 e	2 e	2 e	3 e	3 e
Calcium	66,000 e	4,000 e	2,000 e	10,000 e	10,000 e	2,000 e	87,000 e	38,000 e	1,000 e
Chromium		10	20		20	10	20	10	
Cobalt	20 e	20 e	20 e	30 e	20 e	20 e	20 e	30 e	30 e
Copper		20	20	68	18,000	20		20	
Iron	15,000	20,000	24,000	22,000	29,000	20,000	11,000	8,800	22,000
Lead	8.8		17	37	19	15	21	30	36
Magnesium	28,000 e	4,000 e	2,000 e	1,000 e	2,000 e	2,000 e	22,000 e	13,000 e	1,000 e
Manganese	500 e	850 e	540 e	620 e	600 e	610 e	670 e	350 e	930 e
Nickel	20 e	20 e	20 e	30 e	20 e	20 e	20 e	30 e	30 e
Potassium	2,000 e	2,000 e	2,000 e			2,000 e			
Selenium	3 e	3 e	3 e	3 e	3 e	3 e			
Sodium					5,000				
Thallium	6 e	6 e	6 e	7 e	6 e	6 e			
Tin	20 e	20	20 e	30 e	20 e	20 e	20 e	30 e	30 e
Vanadium	20 e	40 e	40 e	30 e	30 e	30 e	10 e	10 e	30 e
Zinc	40	78	130	390	3,200	110	140	270	370

eEstimated value. Compound is below detection limit, but mass spectral data indicates the presence of a compound.
F Compound failed QA/QC.

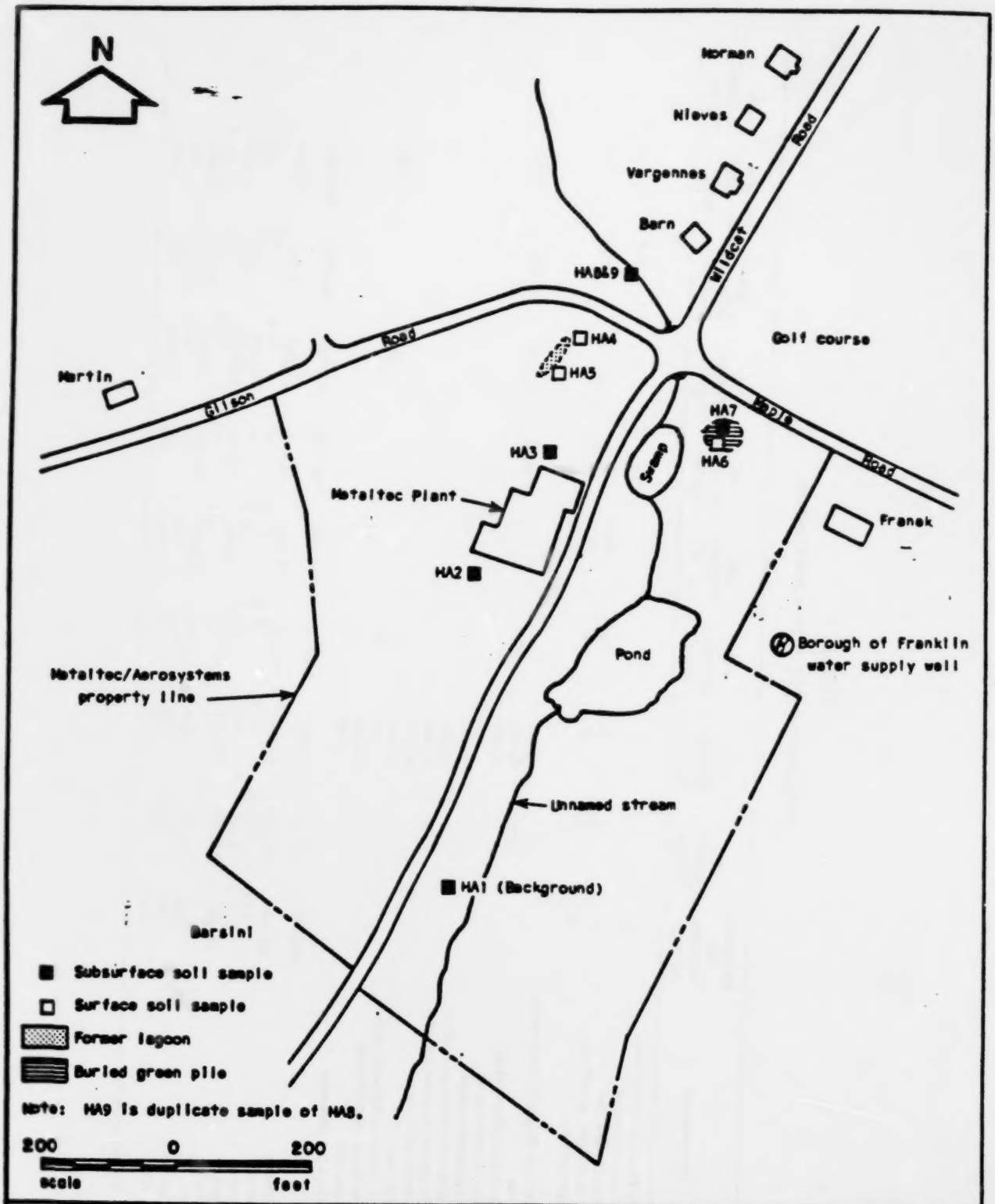

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Figure 5

HAND AUGER SAMPLING LOCATIONS
METALTEC/AEROSYSTEMS, FRANKLIN, NEW JERSEY

TABLE 2

COMPOUNDS DETECTED IN HAND AUGER SAMPLES

Contaminant	Background HA1 12/5/85 (ug/kg)	HA2 12/5/85 (ug/kg)	HA3 12/5/85 (ug/kg)	HA4 12/5/85 (ug/kg)	HA5 12/5/85 (ug/kg)	HA6 12/5/85 (ug/kg)	HA7 12/5/85 (ug/kg)	HA8 12/5/85 (ug/kg)	HA9 DUP 12/5/85 (ug/kg)	TRIP 12/5/85 (ug/l)
Volatile Organic Compounds:										
Methylene chloride	<5									
1,1-Dichloroethane								7.4	5.1	
trans-1,2-Dichloroethene	<5	8.2	21.3	<5	15.9					
Trichloroethene	<5	7.3	<5	<5	<5	<5		34.3	7.2	
Semivolatile Organic Compounds:										
Aniline			4,900							
bis(2-Chloroethyl)ether		<330	6,500	590		930	1,070	1,030	930	
1,3-Dichlorobenzene			8,800							
1,2-Dichlorobenzene			680							
bis(2-Chloroisopropyl)ether			330							
n-Nitroso-di-n-propylamine			2,070							
Hexachloroethane			16,040							
Isophorone			22,700							
bis-2-Chloroethoxymethane			1,800							
1,2,4-Trichlorobenzene			780	350			380		330	
Naphthalene			5,200							
1,4-Dichlorobenzene			<330							
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	
Inorganics:										
Aluminum	21,000	28,000	27,000	11,000	17,000	16,000	31,000	4,500	7,300	
Chromium	12.6	19.4	17.8	16.9	18.9	12	26.2	8.9	7.7	
Copper	9.7	1,000	16.1	41.1	29.3	42	3,400	18.7	35.7	
Iron	18,000	23,000	26,000	12,000	9,900	23,000	22,000	7,600	6,000	
Lead	7	34.2	13.6	5	5.2	27.8	39.3	26.1	24.7	
Magnesium	930	2,200	1,800	17,000	22,000	18,000	8,000	23,000	10,000	
Manganese	434	718	736	509	442	713	700	340	462	
Zinc	146	405	177	98	86	315	735	261	335	

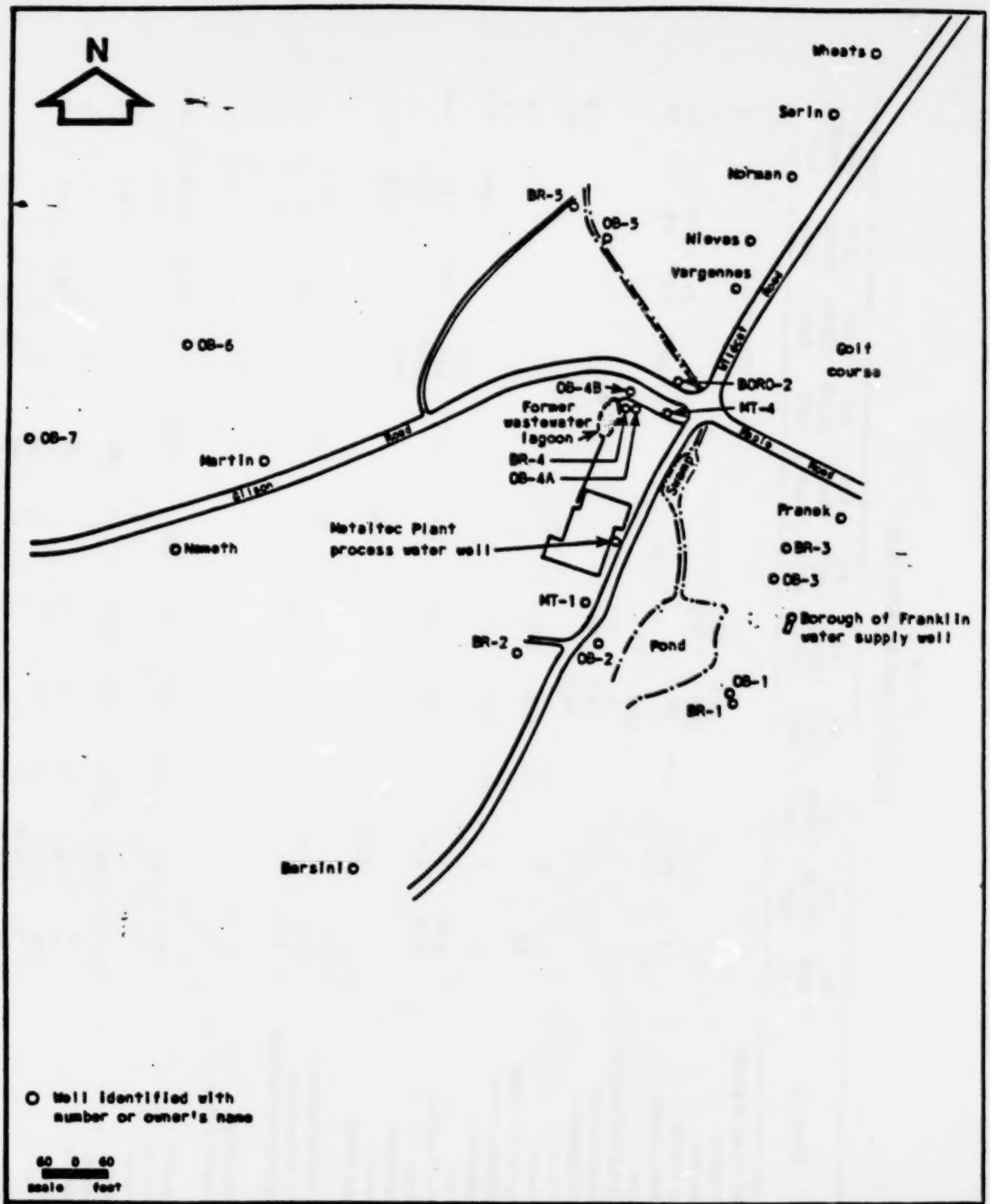

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Figure 6

WELL LOCATIONS
METALTEC/AEROSYSTEMS, FRANKLIN, NEW JERSEY

TABLE 3

DETECTED COMPOUNDS IN BEDROCK WELLS

Contaminant	BR1 11/13/85 (ug/l)	BR2 11/13/85 (ug/l)	BR3 11/21/85 (ug/l)	BR4 11/21/85 (ug/l)	BR4 Duplicate (ug/l)	BR5 11/12/85 (ug/l)	TRIP 11/12/85 (ug/l)	TRIP 11/13/85 (ug/l)	TRIP 11/21/85 (ug/l)	FIELD 11/13/85 (ug/l)	FIELD 11/21/85 (ug/l)
Volatile Organic Compounds:											
Chloromethane								0.44F	0.2F		
Chloroethane				260 ++	540 +						
Vinyl chloride				1,600 +	2,700 +						
Methylene chloride	2 F	2 F	0.7++	140 ++		2 F	120	120	2 F	110	2 F
Acetone	130	9 F				230		6.5F	3 F	620	9 F
trans-1,2-Dichloroethene	2		12 +	6,300 +	9,700 +						
1,1-Dichloroethene				34 ++	57 +						
1,1-Dichloroethane				840 +	1,400 +						
2-Butanone				430 ++							1 4F
Chloroform	2	0	1 +			0.5	5	5		4	26 F
1,1,1-Trichloroethane	0 +		1 +	2,200 +	2,300 +						
Bromodichloromethane											2 F
Trichloroethene	18	3	140 +	2,600 +	3,100 +						1 F
Benzene										0.2F	0.2F
Tetrachloroethene	0.2F							0.3F			
Toluene	0.1F	0.1F		220 +	280 +	0.2F	2 F	0.2F	0.5F	0.3F	0.5F
Ethylbenzene								0.05F		0.05F	
Styrene								0.5+		0.4+	
Total xylenes		0.1F				0.1F				0.2F	
Semivolatile Compounds:											
Bis-n-butylphthalate	2 4F	2 4F				2 4F	2 4F			2 4F	
bis(2-Ethylhexyl)phthalate	2 +8		15		27 F				28		
Pesticide/PCBs:											
Gamma-BHC(lindane)							3				
Inorganics:											
Aluminum	1,460 F	2,350	230 F	619 F	630 F	6,250	104 Fe		110 4F	176 4F	153 +
Arsenic	5 +	5 +		9 +	10	5 +	5 +			5 +	
Barium						122 +					
Calcium	70,400 +	46,200 +	88,200	65,800	66,500	25,100 +	1,250 +			868 +	724 +
Chromium	12	13				19					
Copper	25 F	46 F	24 +	305	393		60				38
Iron	2,730	3,170 F	250 F	5,840	6,080	15,500	417 F		182 F	156 F	79 +
Lead	5.8F	104 Fe	38		14	18 F	140 +			13	
Magnesium	18,300	19,200	23,800	23,200	23,700	28,600	204 +				
Manganese	274 +	92 +	18	3,600	3,120	510 +	14 +			13 +	
Nickel		24 +		23 +			35 +				
Potassium	1,920 +	1,650 +	1,300 +	9	6,830	2,040 +	581 +			521 +	78 +
Sodium	18,900	6,670	11,000	6.	37,800	8,040	4,050 +				0 +

TABLE 3 (Con't)

DETECTED COMPOUNDS IN BEDROCK WELLS

Contaminant	BR1 11/13/85 (ug/l)	BR2 11/13/85 (ug/l)	BR3 11/21/85 (ug/l)	BR4 11/21/85 (ug/l)	BR4 Duplicate (ug/l)	BR5 11/12/85 (ug/l)	TRIP 11/12/85 (ug/l)	TRIP 11/13/85 (ug/l)	TRIP 11/21/85 (ug/l)	FIELD 11/13/85 (ug/l)	FIELD 11/21/85 (ug/l)
Thallium	6 e	6 e				6 e	6 e			6 e	
Zinc	62 F	234 F	86	55	54	321 F	311 F		15 e	65 F	66
Chloride	30	10	75	70	80	15	5			20	
Hardness	270	204	272	312	312	220					
Sulfate	25	58	35 F		22 F	66			16		13
Total dissolved solids	414	252	686	462	512	214	86		72	40	154
Tentatively Identified Compounds:											
2,2-Dimethyl-hexane					640 B						
2,2,4-Trimethyl-pentane				300 B							
2-Methyl-propane									15		
Fluorotrimethyl-silane					530 B				7 B		2 B
Siloxane	9 B	9 B				8 B	20 B	8 B		9 B	
Unknown (volatile)			2 B	1,200 B	1,200 B		11		16 B	1	9 B
1,3-Dimethyl-benzene				35							
(1-Methylethyl)-benzene				15	14						
Propyl-benzene				45	40						
1-Ethyl-3-methyl-benzene				130	120						
1,3,5-Trimethyl-benzene					317						
1,2,4-Trimethyl-benzene				352							
1-Ethyl-2-methyl-benzene				71	69						
1-Ethenyl-2-methyl-benzene				40	40						
Octamethyl-cyclotetrasiloxane									10 B		
Hexadecanoic acid					85						
Hexane					270 B					3 B	
5-Butyldihydro-2(3H)-furanone	15 B	12 B				13	11 B			18 B	
5-Ethyldihydro-2(3H)-furanone			21								
Diethylester-hexanedioicacid	21 B										
2-Methyl-propanoic acid			19								
3,3,3-Trichloro-1-propene					12						
Unknown (nonvolatile)			25 B	112 B	194 B	17	10 B			11 B	13 B

eEstimated value.
F Compound failed QA/QC.
B Analyte is found in the blank as well as the sample.
eLaboratory exceeded sample holding time.

TABLE 4

DETECTED COMPOUNDS IN OVERBURDEN WELLS

Contaminant	OB1 11/13/85 (ug/l)	OB2 11/13/85 (ug/l)	OB3 11/21/85 (ug/l)	OB4A 11/21/85 (ug/l)	OB4B 11/21/85 (ug/l)	OB5 11/12/85 (ug/l)	OB6 11/12/85 (ug/l)	OB6 Duplicate (ug/l)	OB7 11/13/85 (ug/l)
Volatile Organic Compounds:									
Methylene chloride	2 BF	2 BF	45 **	7 **	140 **				
Acetone	350	370	2,300 *	230 *	2,000 *	270	350	460	1,000
trans-1,2-Dichloroethene	1			1,800 *	10,000 *				
1,1-Dichloroethene				13 *					
1,1-Dichloroethane				630 *	1,300 *				
1,1,1-Trichloroethane				260 *	1,100 *				
Chloroform	5	3				0.5	0		1
Benzene						0.09*			
Trichloroethene	8	3		3,900 *					
Toluene	3 BF	0.8BF		16 **	150 **	0.1BF	0.5BF	0.7BF	0.4BF
Total xylenes	0.5*								
Vinyl chloride				1,200 *	3,400 *				
Chloroethane				430 *	280 **				
2-Butanone					240 **				
Semivolatile Compounds:									
Phenol		8 *				7 *		8 *	
Di-n-butylphthalate	3 BF	1 BF				2 BF	2 BF	2 BF	2 BF
bis(2-Ethylhexyl)phthalate		6 *		24				1 *	2 *
Butylbenzylphthalate					9 *				
Gamma-BHC(lindane)	0								
Pesticides:									
Delta-BHC				0.051	0.081				
Inorganics:									
Aluminum	112,000	6,640	24,400	19,200	12,600	51,000	80,200 **	110,000 **	3,900
Arsenic	70 *	5 *	22	13	14	75 *	108 BF	96 *	5 BF
Barium	1,080	140 *	211	166 *	108 *	250	697	760	128 *
Beryllium	17						5.6**	7.6**	
Cadmium	16							5.3	
Calcium	149,000 *	102,000 *	98,800	78,300	105,000	233,000 *	255,000 *	242,000 *	84,400 *
Chromium	119	26	45	25	26	91	122 **	159 **	15
Cobalt	100					24 *	60	74	
Copper	210 F	42 F	28	55	20	90 F	185 F	259 BF	
Iron	177,000	10,700	28,900	21,800	20,100	75,100	117,000	170,000 **	5,220
Lead	55 F	9.2F	40	53	13 F	55 F	161 BF	229 BF	50 F
Magnesium	89,300	23,800	46,800	26,300	47,200	111,000	128,000	133,000	46,400
Manganese	11,900 *	949 *	1,080	2,240	1,510	2,950 *	3,980 *	4,230 *	238 *

Note: Footnotes on bottom of next page.

TABLE 4 (Con't)

DETECTED COMPOUNDS IN OVERBURDEN WELLS

Contaminant	OB1 11/13/85 (ug/l)	OB2 11/13/85 (ug/l)	OB3 11/21/85 (ug/l)	OB4A 11/21/85 (ug/l)	OB4B 11/21/85 (ug/l)	OB5 11/12/85 (ug/l)	OB6 11/12/85 (ug/l)	OB6 Duplicate (ug/l)	OB7 11/13/85 (ug/l)
Nickel	216	28	64	47	48	89	162 F	273 F	21 e
Potassium	14,800	4,260 e	693 e	9,200	8,740	11,500	18,400	19,800	2,870 e
Sodium	11,300	100,000	29,200	23,600 F	42,500 F	20,100	8,020	9,200	28,900
Thallium	6 e	6 e	6 eF	5 eF	6 eF	6 e	6 eF	6 e	
Tin							170 F		17 e
Vanadium	216	33 e	56	53	31 e	85	176 eF	234 eF	
Zinc	1,580 F	200 F	158	192 F	109 F	266 F	619 eF	1,630 eF	124 F
Chloride(1)	30	210	70	65	95	30	20	15	45
Hardness(1)	770	466	440	372	546	1,000	1,330	740	492
Nitrate(1)									0.05
Sulfate(1)	1,306	119	283	177	170	508	1,802	1,483	217
Total dissolved solids(1)	3,290	856	550	896	1,096	286	632	260	578
Tentatively Identified Compounds:									
2,2-Dimethyl-hexane					270 B				
Fluorotrimethyl-silane			490 B		250 B				
Silane	64 B	29				10	24	22	20
Unknown (volatile)			1,000 B	205 B	2,230 B				
1,3-Dimethyl-benzene				24	41				
Propyl-benzene				24	25				
1-Ethyl-3-methyl-benzene				56	100				
1,2,4-Trimethyl-benzene				56	96				
1-Ethyl-2-methyl-benzene				38	64				
1,3,5-Trimethyl-benzene				85	204				
1-Ethenyl-2-methyl-benzene				23	38				
(1-Methylethyl)-benzene					18				
Benzeneacetic acid				10					
5-Butyldihydro-2(3H)-furanone	15 B	18 B				11	12	12	10
5-Ethyldihydro-2(3H)-furanone			19		13				
2-Methyl-propanoic acid			80	16					
Unknown (semivolatile)	13	9 B	78 B	821 B	121 B		860		12

B Analyte is found in the blank as well as a sample.
F Compound failed QA/QC.
eEstimated value. Compound is below detection limit, but mass spectral data indicates the presence of a compound.
eeIndicates duplicate analysis is not within control limits.
(1)Concentration in mg/l.
eLab exceeded sample holding time.

A host of organic hazardous substances and some metalic hazardous substances were detected in the subsurface soil in Parcel 1 (see Table 1) and the groundwater in contact with this soil (see Tables 3 and 4). The surficial soils showed slight organic contamination. The contaminants found in the highest concentrations in the subsurface soil were trichloroethene at 0.76 percent (7,600,000 ppb) and trans-1,2-dichloroethene at 0.66 percent (6,600,000 ppb). The groundwater taken from the former lagoon area wells was also grossly contaminated with organics. The bedrock well showed a host of volatiles including trichloroethene at 2600 -3100 ppb, trans-1,2-dichloroethene at 6500 - 9700 ppb, and vinyl chloride at 1600 - 2700 ppb. It must be noted at this point that trichloroethene is biodegrading into trans-1,2dichloroethene and finally into vinyl chloride. The surficial soil, which was clean fill brought in during the 1981 partial excavation, contained 15.9 ppb trans-1,2-dichloroethene and 18 ppm magnesium.

Parcel 2 is located in the area of a loading dock adjacent to northeast side of the Metaltec building. One hand auger sample, number HA3, was dug in the surface soils and showed semivolatile and inorganic contamination (see Figure 5). Test pit T9 (see Figure 4) was dug in this area. The anlaysis reveals no volatile organic contamination but does indicate some degree of semivolatile and inorganic contamination (see Tables 1 and 2). Copper and chromium were both found at 20 ppm in the subsurface soils. The background concentrations for these metals are below detection limits. The volume is defined as approximately 900 cubic yards consisting of a 2500 square foot surface area and an approximate depth of 10 feet. It is estimated that 20 percent of this material is located in the saturated zone of the surficial water table.

Parcel 3 is located at the rear of the Metaltec building directly outside the back door (see Figure 3). Again, one test pit, T10 (see Figure 4), was dug in this area. The analysis of the composite soil sample indicates some degree of inorganic contamination with chromium, copper, lead and zinc above background levels, as well as a slight amount of organic contamination with trichloroethene and trans-1,2-dichloroethene (see Table 1). The hand auger sample, HA2 (see Figure 5), confirms the presence of the same contaminants in the surficial soils (see Table 2). The volume is approximately 900 cubic yards consisting of a 2500 square foot surface area and a depth of about 10 feet. It is estimated that 20 percent of this material is located in the saturated zone.

Parcle 4 is located in the former green pile area. Two test pits, T11 and T12, were dug in this area. The analyses reveal inorganic contamination with copper and zinc above background levels as well as a slight amount of organic contamination; tetrachloroethene and trichloroethene were detected above background concentrations (see Table 1). The hand auger samples, HA5 and HA6, confirm this contamination in the surficial soils (see Table 3). The volume is estimated to be 1500 cubic yards. The surface area is approximately

6750 square feet with a depth of about 6 feet, where a clay layer is encountered. The entire parcel lies in the saturated zone.

Organic contamination from the lagoon area has migrated to the groundwater beneath the site. Consequently, three private potable wells, the Metaltec process well, and the Borough of Franklin public supply well where the groundwater contamination was discovered in 1980 have been adversely impacted (see Table 5). This groundwater system consists of two aquifers, the upper overburden aquifer and the lower bedrock aquifer. A pumping test conducted on the borough supply well during the remedial investigation demonstrated a hydraulic connection between the lagoon area and the contaminated bedrock aquifer. Thus, a pathway for contaminant migration is present in the area's groundwater between the former lagoon area and the Maple Road Municipal Supply Well.

Gross volatile organic and metalic hazardous substances contamination was found throughout the overburden and bedrock aquifers; the monitoring well locations can be seen on Figure 6. Trichloroethene was present in 11 of the 22 groundwater samples. The volatile organics detected in the overburden well samples (see Table 4) were also present in the soil samples collected from the former lagoon. Figures 7 and 8 depict the distribution of trichlorothene and trans-1,2-dichloroethene, the two volatile compounds detected at the highest concentrations in the surficial aquifer. The detected concentrations are highest in the area of the former lagoon (trichloroethene at 3,900 ug/l and trans-1,2-dichloroethene at 10,000 ug/l). Trichloroethene (8 ug/l at OB-1 and 3 ug/l at OB2) and trans-1,2dichloroethene (1 ug/l at OB-1) were also detected in samples collected from the upgradient overburden wells. These wells appear to have been set at the upgradient fringe of the contaminant plume, but it is obvious from Figures 7 and 8 that the greatest groundwater impact is in the area of the former lagoon. No volatile organics were detected in the wells north of Gilson Road (OB-5, OB-6 and OB-7). Other volatile organics detected in the surficial groundwater wells adjacent to the former lagoon are 1,1-dichloroethane, 1,1-dichloroethene, vinyl chloride, and 1,1,1-trichloroethane. None of these four volatile organic compounds were detected in the upgradient wells (OB-1 and OB-2).

Volatile organic concentrations were highest in the bedrock aquifer samples collected adjacent to the former lagoon area (see Table 4). The distribution of trichloroethene and trans-1,2dichloroethene in the bedrock aquifer is shown in Figures 9 and 10. Trichloroethene and trans-1,2-dichloroethene occurred at 3,100 ug/l and 9,700 ug/l, respectively, at the former lagoon area. Trace amounts of trichloroethene and trans-1,2-dichloroethene were detected in the well samples located upgradient of the former lagoon (BR-1 and BR-2), but it is believed that, while developing and purging these wells, the fringe of the plume migrated into this area of the aquifers through fractures

TABLE 5

DETECTED CONTAMINANTS IN RESIDENTIAL WELLS

Contaminant	Durand 11/13/85 (ug/l)	Franck 6/5/85 (ug/l)	Martin 6/25/85 (ug/l)	MW6 6/25/85 (ug/l)	MW6 DUP 6/25/85 (ug/l)	Nemeth 6/25/85 (ug/l)	Rhoves 6/5/85 (ug/l)	Rhoves 6/5/85 (ug/l)	Rhoves DUP 6/5/85 (ug/l)	Sorin 6/25/85 (ug/l)	Vangansen 6/5/85 (ug/l)	Woods 6/25/85 (ug/l)	Field 6/25/85 (ug/l)	Field 6/25/85 (ug/l)	Field 6/5/85 (ug/l)	Trip 6/25/85 (ug/l)	Trip 6/5/85 (ug/l)
Volatile Organic Compounds:																	
Chloroethane	0.68+												13	19		8	1
Methylene chloride				9											8.5+		
Acetone			9 +	85						180		160					
trans-1,2-Dichloroethene					45						21						1
Chloroform							5.3	6.2	7.1						7.7+		
1,1,1-Trichloroethane											2.7+						
Trichloroethene		7.4			230		2.7+				99						
Ethylbenzene			2 +	2 +											24		
Total xylenes			4 +												97		
Benzene	0.1+														13		
Toluene	0.2+														180		
Semivolatile Organic Compounds:																	
Phenol	7 +																
Bis-2-ethylhexylphthalate	2 +B																
Inorganics:																	
Aluminum	154 +	200 +	200	190 +		240	200 +E	500 +E	1,400 E		200 +						
Antimony		60 +			130		60 +	60 +			60 +						
Arsenic											7						
Barium		100 +			16 +	12 +	100 +	100 +		44 +	100 +	64 +					
Beryllium		4 +					4 +	4 +			4 +					250 +	
Calcium		52,000 +	31,000	46,270	60,700	15,270	80,000 +	55,000 +	56,000	53,000	57,000 +	100,000				19.0	19.0
Chloride(I)																	
Chromium		10 +					10 +	10 +			10 +						
Cobalt		20 +					20 +	20 +			20 +						
Copper	46	20 +			17 +	21 +	10 +	10 +		85	10 +	15					
Iron	245	1,520 +	725	457	565	262	2,170 +	2,010 +	2,500	44 +	6,000 +	125					
Lead	0.8E																
Magnesium	12,000	12,000 +	10,220	15,000	14,440	13,260	21,000	43,000 +	41,000	22,260	21,000 +	58,140					
Manganese		20	12 +	199	160	13 +	80	80	80		250						
Mercury				0.1+	0.1+	0.1+						0.17+					
Nickel		40 +					40 +	40 +			40 +						
Potassium	727 +		2,100 +	1,200 +	1,200 +							1,200 +					
Selenium																	
Sodium	5,000	5,000 +		6,200	11,070		22,000 +	80,000 +	80,000 +	20,570	20,000 +	64,500			40 +		
Tin		40 +					40 +	40 +			40 +				20 +		
Vanadium		20 +					20 +	20 +	20 +		20 +						
Zinc	76	20		270	442	45	50	50	50		70						
Chloride(I)	80	97	0.7+	10.2	0.05	1.72	76	170	80	49.5	65	204.1					
Hardness(I)	180	271	170	257	252	146	227	502	420	267	282	512					
Nitrate/Nitrite(I)	0.2I	1.2	0.8	1.0	1.1	0.77	3	1.5	1.6	5.1+	2.2	1.7+					
Solids, dissolved(I)	252	260	176	257	192	22	490	770	700	244	424	630					
Sulfate(I)	20	22	25.7	41.2	46.6	40.2	20	20	25	25.9	25	20.4					

+Estimated value. Compound is below detection limit, but mass spectral data indicates the presence of a compound.
(I)Concentration in mg/l.
' Analyte is found in blank as well as sample.
Spike sample recovery is not within control limits.
Failed QA/QC.

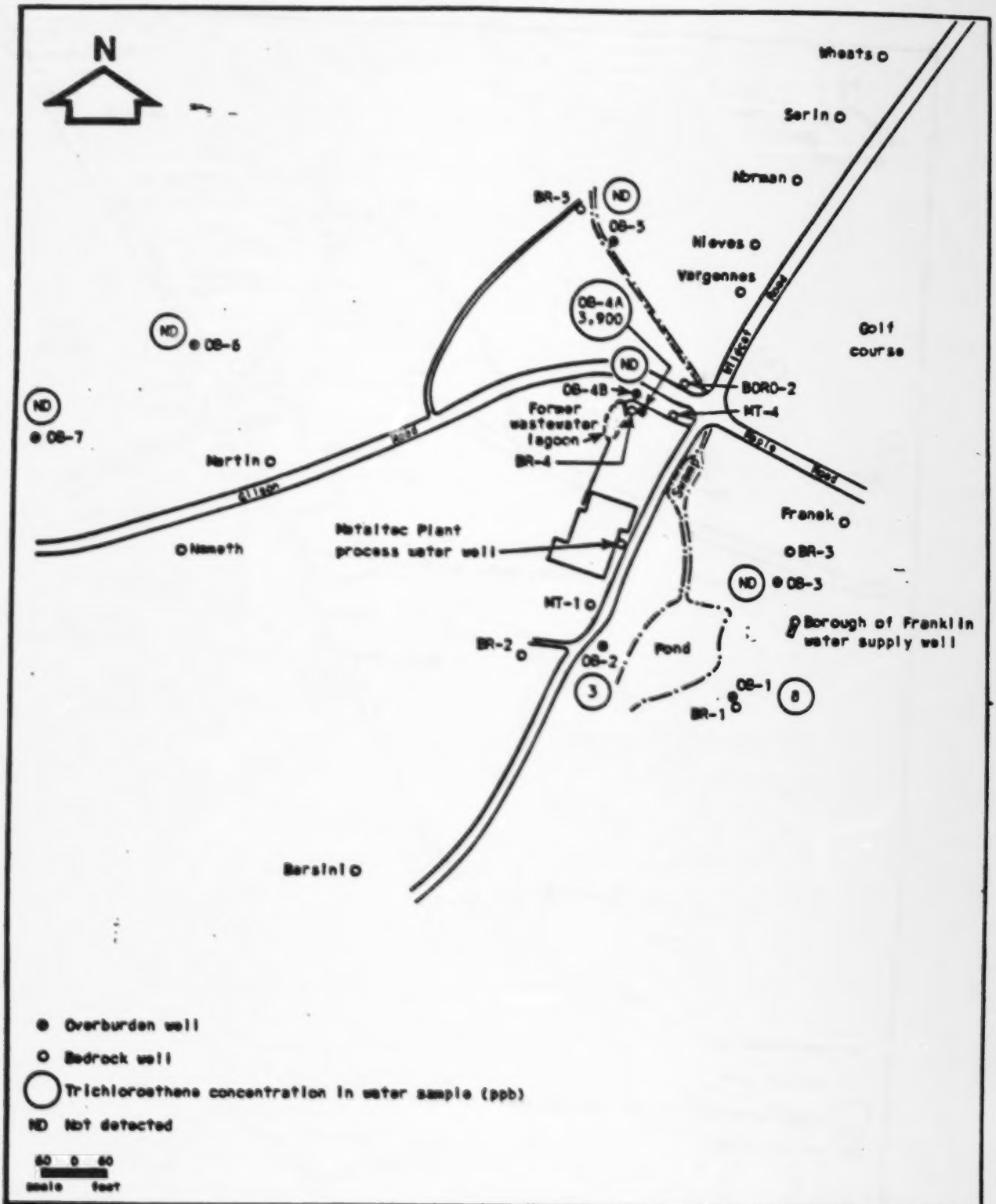

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Figure 7

TRICHLOROETHENE DISTRIBUTION IN SURFICIAL AQUIFER
METALTEC/AEROSYSTEMS, FRANKLIN, NEW JERSEY

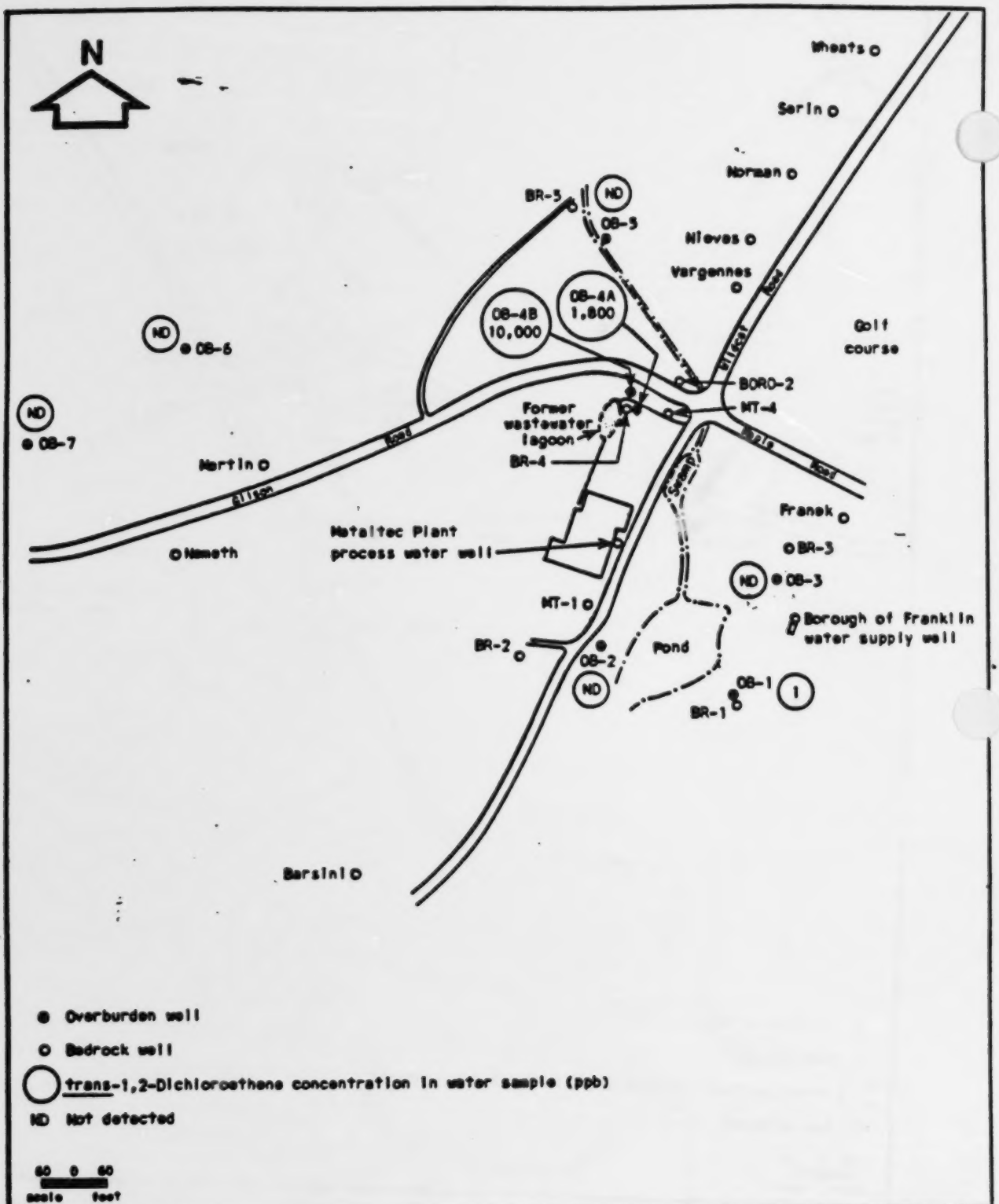

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Figure 8

trans-1,2-DICHLOROETHENE DISTRIBUTION IN SURFICIAL AQUIFER
METALTEC/AEROSYSTEMS, FRANKLIN, NEW JERSEY

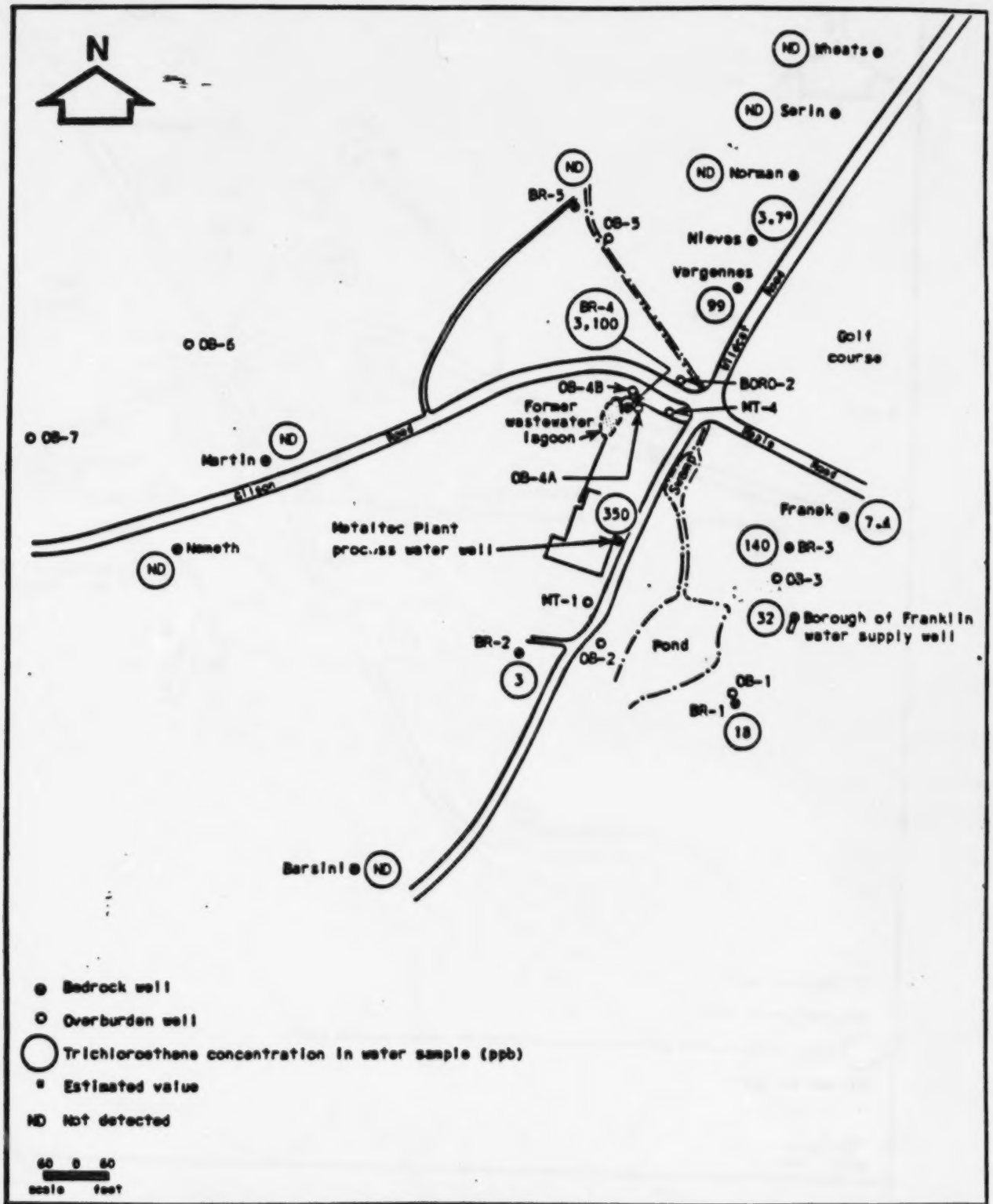

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Figure 9

TRICHLOROETHENE DISTRIBUTION IN BEDROCK AQUIFER
METALTEC/AEROSYSTEMS, FRANKLIN, NEW JERSEY

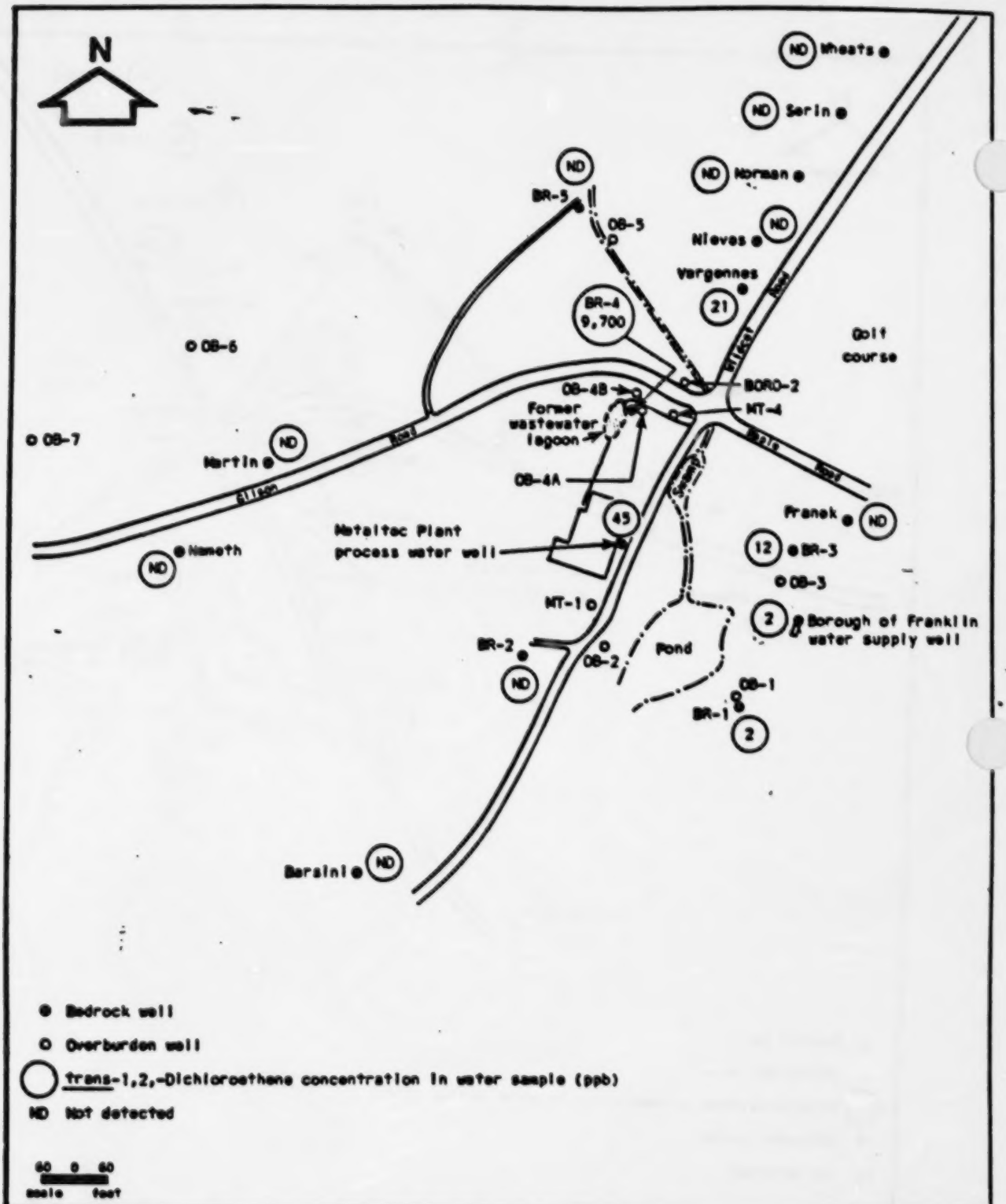

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Figure 10

trans-1,2-DICHLOROETHENE DISTRIBUTION IN BEDROCK AQUIFER
METALTEC/AEROSYSTEMS, FRANKLIN, NEW JERSEY

in the bedrock resulting in the detection of these compounds. Neither compound was found in the Barsini bedrock well which is upgradient of BR-1 and BR-2. Another organic compound that was detected in the former lagoon area is vinyl chloride. Vinyl chloride (or chloroethene) is a biodegradation product of trichloroethene, which was detected in samples collected in this area from 1980 to the present. Vinyl chloride was not found in any of the other bedrock monitoring wells. Other volatile organics that were found exclusively in BR-4 were chloroethane, 1,1-dichloroethene, 1,1-dichloroethane, and 1,1,1-trichloroethane. 2-butanone was also present only in BR-4 at an estimated value of 430 ug/l. This compound was also detected in the overburden well at this location (OB-4B).

Tentatively identified compounds occurred most frequently at BR-4. Several tentatively identified benzene compounds were detected only at this well. The source of these parameters is unknown at the present time.

The only volatiles present at BR-5 are common laboratory contaminants, such as acetone. The chlorinated compounds, such as trichloroethene or trans-1,2-dichloroethane, were not detected in the sample collected at this well.

The surface waters of concern at the Metaltec site include a pond on the site, an unnamed tributary to Wildcat Brook that runs northward through the site, Wildcat Brook, and the Wallkill River. Six samples of the area's surface waters and sediments were taken in the fall of 1985 during the remedial investigation (see Figure 11).

Table 6 identifies the compounds that were detected in the stream water collected and Table 7 lists the compounds that were found in the stream sediments. 10 ppm of cadmium was detected in the stream sediments at station 2 (S2). This area is adjacent to the green pile area and the contamination is attributed to the green pile. Generally, volatile organic contamination was below the detection limits utilized by the contract laboratory. However, 40 ug/l of trichloroethene and 47 ug/l of trans-1,2-dichloroethene were detected in the stream between the intersection of Maple and Wildcat Roads and the confluence of Wildcat Brook at Station 5 (S5). It is believed that these two pollutants emanate from the former lagoon area on the Metaltec site. The former lagoon area is located on a geologic contact between two distinct geologic zones (see Figure 12). It is hypothesized that the water present in the contact zones surfaces in the unnamed stream and therefore the contaminants are being transported to the stream water via subsurface groundwater system beneath the Metaltec site. In addition, low levels of aldrin and heptachlor epoxide were detected. These compounds are common pesticides and may be emanating from the corn fields, grass fields, or golf course in the area. Stream sediments at Station 5 also showed 20 ug/l of trans-1-2, dichloroethane.

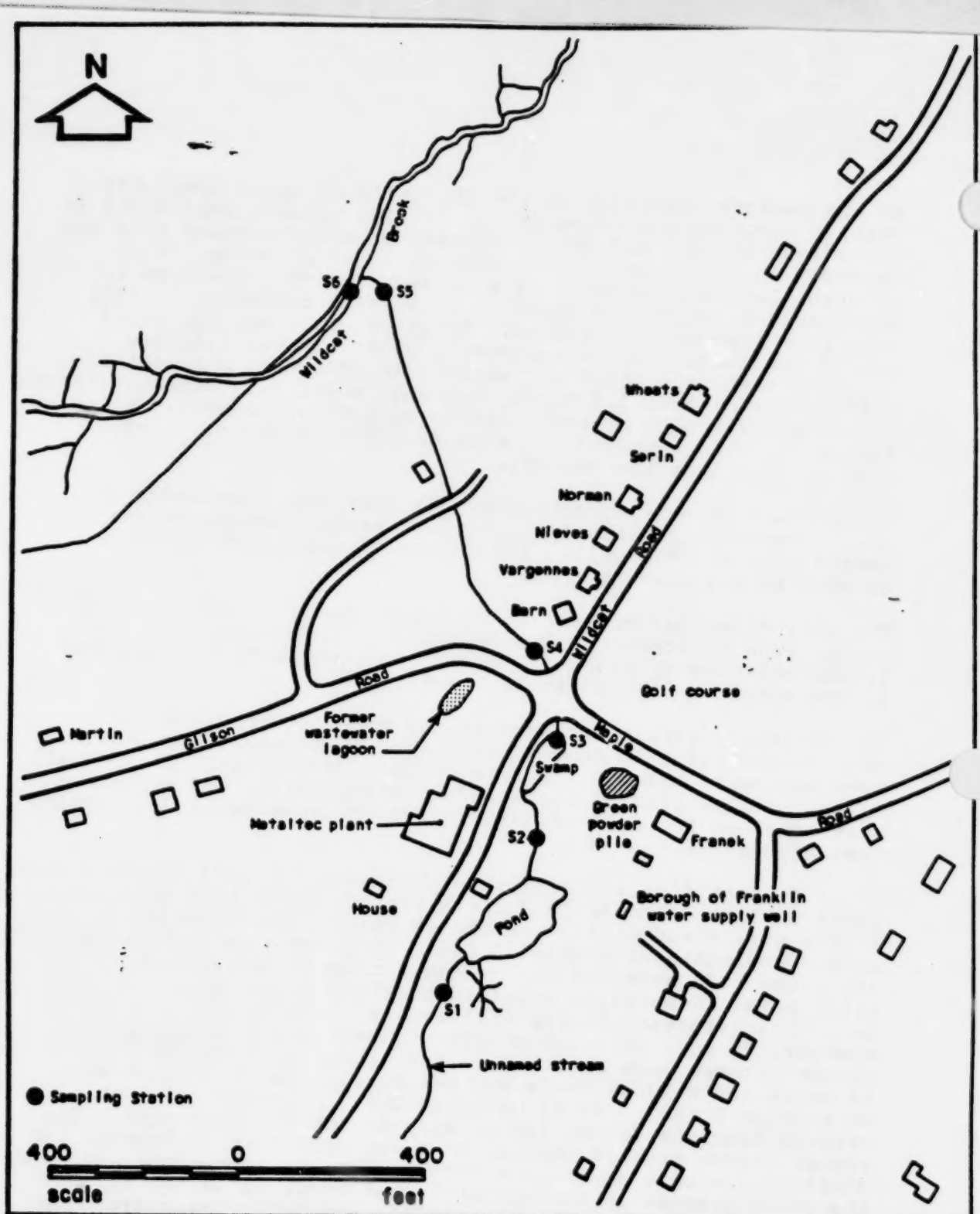

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Figure 11

SURFACE WATER SAMPLING STATIONS
METALTEC/AEROSYSTEMS, FRANKLIN, NEW JERSEY

TABLE 6

DETECTED COMPOUNDS IN STREAM WATER

Contaminant	Sample 1 5/16/85 (ug/l)	Sample 2 5/16/85 (ug/l)	Sample 3 5/16/85 (ug/l)	Sample 4 5/16/85 (ug/l)	Sample 5 5/15/85 (ug/l)	Sample 6 5/15/85 (ug/l)	Sample 1D 5/16/85 (ug/l)	Sample 5D 5/15/85 (ug/l)	Trip 5/15/85 (ug/l)	Trip 5/16/85 (ug/l)	Field 5/15/85 (ug/l)	Field 5/16/85 (ug/l)
Volatile Organic Compounds:												
trans-1,2-Dichloroethene					47			43				
Chloroform					2 e							
1,1,1-Trichloroethane					2 e							
Trichloroethene	2 e			4 e	40			40				
Benzene	2 e						1 e				1 e	
Semivolatile Compounds:												
1,2-Dichlorobenzene				10 e								
bis(2-Ethylhexyl)phthalate				2 e			2 e					
Pesticide/PCBs:												
Aldrin					0.01	0.01		0.01				
Heptachlor epoxide	0.01											
Inorganics:												
Aluminum	240	340	190 e		430	340	250	480				
Barium	22 e	17 e	16 e	20 e	17 e	30 e	21 e	28 e				
Cadmium		7										
Calcium	40,000	42,500	44,100	45,800	47,800	37,300	41,000	46,800				
Chromium					9 e	7.9e						
Iron	215	441	449	413	689	465	103	688				
Magnesium	15,000	15,100	16,800	16,300	17,300	16,100	15,700	16,700				
Manganese	45	442	338	262	206	71	39	223				
Potassium	1,200 e		1,166									
Sodium	8,950	13,100	14,200	15,600	22,300	5,030	8,260	13,600				
Tin												
Zinc	21	17 e	15 e		14 e	34	19 e	18 e				

eEstimated value. Compound is below detection limit, but mass spectral data indicates the presence of a compound.

TABLE 7

DETECTED COMPOUNDS IN STREAM SEDIMENT

Contaminant	Sample 5/16/85 (ug/kg)	Sample 2 5/16/85 (ug/kg)	Sample 3 5/16/85 (ug/kg)	Sample 4 5/16/85 (ug/kg)	Sample 5 5/15/85 (ug/kg)	Sample 6 5/15/85 (ug/kg)	Sample 10 5/16/85 (ug/kg)	Sample 50 5/15/85 (ug/kg)	Trip 5/15/85 (ug/l)	Trip 5/16/85 (ug/l)
Volatile Organic Compounds:										
trans-1,2-Dichloroethene				53 e	20			17 e		
1,1,1-Trichloroethane		2.5 e								
Vinyl acetate									1 e	
Trichloroethene		2 e			8 e			12 e		
Semivolatile Compounds:										
Benzyl alcohol				442 e						
4-Methylphenol	40 e									
Naphthalene				10 e						
Phenanthrene	74 e			48 e	56 e		70 e	332 e		
Fluoranthene	208 e									
Pyrene					60 e					
bis(2-Ethylhexyl)phthalate			1,080					660		
Benzo (a) pyrene	626 e		634 e		340 e	2,700		420 e		
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)		
Inorganics:										
Aluminum	5,010	6,890	9,650	4,340	4,760	23,400	2,970	16,870		
Arsenic		14.1	16.2		5.2 e					
Barium	63 e	54 e	92 e	19 e	52 e	248 e	32 e	119 e		
Cadmium		10		2.3		31 e	4 e	4 e		
Calcium	9,540	177,000	23,990	52,280	33,790	25,030	5,180	33,790		
Chromium		18	10 e	6 e	7 e			7 e		
Copper		50	94				16			
Iron	12,300	22,200	18,869	9,823	12,910	32,807	6,470	12,909		
Lead		46	21 e		53.1	63				
Magnesium	3,750 e	82,300	11,120	23,010	10,820	8,250 e	3,020 e	7,640		
Manganese	1,180	2,570	1,561	1,163	1,010	2,440	223	511		
Tin					22 e					
Vanadium								45 e		
Zinc	316	590	459	99	156	1,090	197	234		

eEstimated value. Compound is below detection limit, but mass spectral data indicates the presence of a compound.

TABLE 7

DETECTED COMPOUNDS IN STREAM SEDIMENT

Contaminant	Sample 1 5/16/85 (ug/kg)	Sample 2 5/16/85 (ug/kg)	Sample 3 5/16/85 (ug/kg)	Sample 4 5/16/85 (ug/kg)	Sample 5 5/15/85 (ug/kg)	Sample 6 5/15/85 (ug/kg)	Sample 1D 5/16/85 (ug/kg)	Sample 5B 5/15/85 (ug/kg)	Trip 5/15/85 (ug/l)	Trip 5/16/85 (ug/l)
Volatile Organic Compounds:										
trans-1,2-Dichloroethene				53 e	20			17 e		
1,1,1-Trichloroethane		2.5 e								
Vinyl acetate									1 e	
Trichloroethene		2 e			8 e			12 e		
Semivolatile Compounds:										
Benzyl alcohol				442 e						
4-Methylphenol	40 e									
Naphthalene				10 e						
Phenanthrene	74 e			48 e	56 e		70 e	332 e		
Fluoranthene	208 e									
Pyrene					60 e					
bis(2-Ethylhexyl)phthalate			1,080					660		
Benzo (a) pyrene	626 e		634 e		340 e	2,700		420 e		
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)		
Inorganics:										
Aluminum	5,010	6,890	9,650	4,340	4,760	23,400	2,970	16,870		
Arsenic		14.1	16.2		5.2 e					
Barium	63 e	54 e	92 e	19 e	52 e	248 e	32 e	119 e		
Cadmium		10		2.3		31 e	4 e	4 e		
Calcium	9,540	177,000	23,990	52,280	33,790	25,030	5,180	33,790		
Chromium		18	10 e	6 e	7 e			7 e		
Copper		90	94				16			
Iron	12,300	22,200	18,869	9,823	12,910	32,807	6,470	12,909		
Lead		46	21 e		53.1	63				
Magnesium	3,750 e	82,300	11,120	23,010	10,820	8,250 e	3,020 e	7,640		
Manganese	1,180	2,570	1,561	1,163	1,010	2,440	223	511		
Tin					22 e					
Vanadium								45 e		
Zinc	316	590	459	99	156	1,090	197	234		

eEstimated value. Compound is below detection limit, but mass spectral data indicates the presence of a compound.

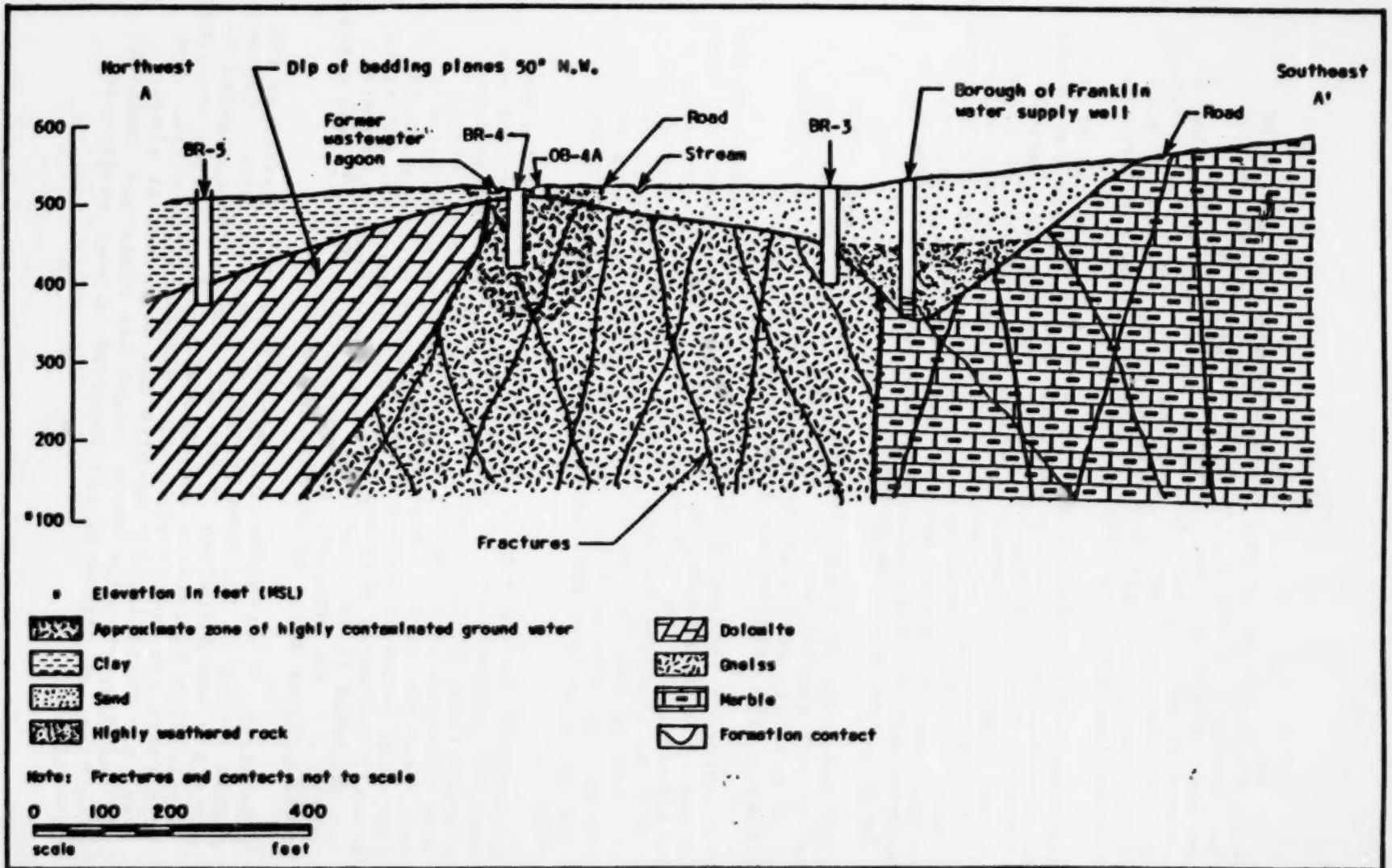

Figure 12

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SCHEMATIC GEOLOGIC PROFILE AND CONCEPTUAL MODEL
METALTEC/AEROSYSTEMS, FRANKLIN, NEW JERSEY

Because of similarities in the inorganic/metal contamination found in Parcels 2, 3 and 4, these three soil parcels may be combined when assessing risk. Parcel 1 will be addressed alone, since it shows a high degree of organic contamination as well as some inorganic/metals contamination. All of the parcels were identified by test pit excavation and sampling. The bulk of the contamination in all four parcels is below the surface.

The risk assessment performed at the site identified twelve indicator chemicals which were present and are hazardous substances under CERCLA. Indicator chemicals represent the most toxic, mobile, and persistent chemicals at the site, as well as those present in the greatest concentrations. These chemicals may be broken down into two categories: organics (trans-1,2-dichloroethene, trichloroethene, tetrachloroethene, vinyl chloride, 1,1,1-trichloroethane and 1,1-dichloroethane) and inorganics (copper, zinc, lead, chromium and manganese).

These 12 chemicals were selected so that the risk assessment focuses on the significant contamination present at the site in regard to a public health perspective. Public health concerns identified at the Metaltec site are summarized below.

- The unnamed tributary to Wildcat Brook shows elevated levels of hazardous substances at one location downstream from the Metaltec site. The surface water route is not considered a high risk exposure pathway through ingestion or dermal contact due to the limited exposure of the populace to this stream. No adverse impacts due to the contaminants at the Metaltec site have been observed in the Wallkill River to date.

- Groundwater in the surficial and bedrock aquifers has been severely contaminated by the Metaltec site. Hazardous substances (HSs) in the groundwater system have contaminated both domestic water supply wells and a municipal supply well near the site. These conditions make groundwater a high-risk exposure pathway. Groundwater discharge to the unnamed tributary also continues to transport HSs and other contaminants in this area. In the event that groundwater at the site is ingested, the contamination that is now present could produce acute or chronic health effects.

- Inhalation of air-borne contaminants is not a hazard to the people living in the area around the Metaltec site. Contaminants are not dispersed in the air because the contamination is primarily subsurface and, therefore, it has been concluded that there are no off-site, air-related health risks. However, air contamination on-site can be severe at times. For example, when the waste lagoon was disturbed, remedial investigation personnel are required to wear respiratory protection.

In summary, the soil, groundwater and hydraulic studies in which were undertaken at and in the vicinity of the Metaltec Corporation site indicated that, among other items:

1. Hazardous substances in the form of both organic and inorganic substances exist in the soil in at least four discrete parcels on both the Metaltec site and the Vargenne's horse corral area located to the north across Gilson Road.

2. All four of these discrete parcels of contaminated soil are in direct contact with the surficial groundwater aquifer which underlies the Metaltec site.

3. Both the surficial (upper) groundwater aquifer and the bedrock (lower) aquifer which exist beneath the Metaltec site exhibit elevated levels of specific hazarous substances which are present in the soil and the abandoned lagoon area on the Metaltec site.

4. The Maple Road Municipal Well which is located less than 250 feet east of the Metaltec site boundary has been abandoned due to the presence of contaminants which have rendered it unfit for potable supply purposes. Some of these contaminants are hazardous substances under CERCLA and are identical to and/or are biodegradation products of hazardous substances found in the soil at and/or the groundwater beneath the Metaltec Corporation site.

5. The following hazardous substances were detected in the soil on the Metaltec site in concentrations which far exceed any background levels which could be expected in soils in the area and/or any levels which were in fact detected in any soil samples outside the Metaltec site:

   a. trichloroethene
   b. trans-1,2-dichloroethene
   c. vinyl chloride
   d. copper

6. Some hazardous substances which are found at the Metaltec site, trans-1,2-dichloroethene and trichloroethene, have entered the unnamed stream which flows through the site.

7. Some of the hazardous substances existing in the soil and/or the groundwater at and beneath the Metaltec site are known to cause cancer in lower species and are known or suspected carcinogenic compounds in humans.

The environmental studies at and in the vicinity of the Metaltec site clearly indicate that:

a. Hazardous substances as that term is defined in Section 101 (14) of CERCLA, 42 USC 9601 (14), have been and are being released into the environment at the Metaltec site;

b. a substantial threat of new and continued release of hazardous substances into the environment exists at the Metaltec site; and

c. an imminent and substantial danger to the public health, welfare and environment exists due to the release and substantial threat of release of hazardous substances, other pollutants and contaminants into the environment at and from the Metaltec site.

Enforcement

Previous investigations pertaining to the Metaltec/Aerosystems site have indicated that Mr. Charles Fletcher, the current owner of the property, was also the generator and disposer of the hazardous waste at the site.

In April 1986, EPA sent an information request letter, pursuant to Section 3007 of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §6927, to Mr. Charles Fletcher, President of Aerosystems Corporation, of which Metaltec is a subsidiary requesting information pertaining to the site. The response was hand delivered on June 17 at the public meeting held in Franklin and is currently being reviewed.

ALTERNATIVES EVALUATION

The feasibility study process involves, as a first step, selecting technologies that are appropriate for remedying the public health and environmental concerns associated with a particular site. In the case of the Metaltec/Aerosystems site, the remedial objectives are to address the soil contamination present at the site, to restore the water resource lost when the Maple Road Municipal Supply Well was shut down in 1980 because of organic contamination, and to concurrently reduce the adverse public health and environmental impacts associated with the high levels of contamination found. The remedial measure should be designed to alleviate the public health risks and environmental impacts associated with the contaminated soils at the Metaltec site. It should be noted that this Record of Decision does not address the groundwater contamination emanating from the site. Additional study will be required to fill the data gaps that exist in the RI/FS at this time.

The remedial technologies selected for controlling the source of contamination at the site fall into three catagories including containment, treatment and removal of contaminated soils associated with the four pacels. No remedial technologies involving management of migration are discussed. Information needed to assess these alternatives is not known at this time. A supplemental RI/FS will be conducted to determine the depth and extent of lateral migration of contamination thereby closing the existing data gaps. In addition, two remedial technologies were selected to restore the drinking water source lost to the borough.

Considering available technologies and the site's physical conditions, several remedial alternatives were developed to effect source control (Alternatives 3, 4, 5 and 6) and to restore the lost water supply (Alternatives 7, 8 and 9). The preliminary remedial alternatives are listed and briefly described in Table 8. Capital costs, operation and maintenance costs, and the related present worth values for the alternatives are provided in Table 9. A more detailed description of the technology screening and remedial alternative development can be found in the Feasibility Study Report for the Metaltec/Aerosystems site dated May 1986. The remedial alternative descriptions that follow identify each action, outline the effectiveness and cost of the action, and address the action's consistency with other environmental laws. Consistency with other environmental laws is described more completely in a later section of this document.

TABLE 8

DESCRIPTION OF REMEDIAL ALTERNATIVES

Alternative 1 - No action
- no soil remediation
- restricted aquifer use
- groundwater monitoring program

Alternative 2 - No action
- no soil remediation
- operation of the Maple Road Supply Well with no treatment
- groundwater monitoring program

Alternative 3 - Contaminated soil containment of Parcel 1
- lower groundwater table
- pump and treat groundwater for perpetuity
- discharge treated effluent to POTW
- groundwater monitoring program

Alternative 4 - Contaminated soil removal of Parcel 1
- dewater the excavation area
- excavation and off-site disposal of Parcel 1 soils to a RCRA facility
- treat the water and discharge to POTW
- groundwater monitoring program

Alternative 5 - Contaminated soil treatment of Parcel 1
- dewater the excavation area
- excavation of Parcel 1 soils
- treatment of Parcel 1 soils by heating and driving off volatile organic contamination
- disposal of soil residuals in an appropriate landfill facility
- treat the water and discharge to POTW
- groundwater monitoring program

Alternative 6 - Contaminated soil removal of other parcels
- excavation and off-site disposal of Parcels 2 and 3 soils
- excavation and off-site disposal of Parcel 4 soils

Alternative 7 - Well-head treatment using an intermittent high rate system
- treatment of the Maple Road Supply Well

Alternative 8 - Well-head treatment using a continuous low rate system
- treatment of the Maple Road Supply Well

Alternative 9 - Connection to the Borough of Hamburg Public Water Supply System

TABLE 9

CAPITAL COSTS, OPERATION AND MAINTENANCE COSTS

AND PRESENT WORTH VALUES

REMEDIAL ALTERNATIVE	CAPITOL COST ($)	O&M COST ($)	PRESENT WORTH ($)
1. No action - municipal well not in service	68,000	78,000	803,000
2. No action - municipal well returned to service	68,000	1,552,000	14,699,000
3. Source control of Parcel 1 via lowering water table	1,072,000	1,064,000	11,102,000
4. Excavation and off-site disposal of Parcel 1 soils to a RCRA landfill	6,410,000	78,000	7,263,000
5. Excavation, treatment and off-site disposal of Parcel 1 soils			
ROTARY DRYER METHOD			
Sanitary Landfill	4,983,000	78,000	5,718,000
RCRA Landfill	8,453,000	78,000	9,188,000
INCINERATOR METHOD			
Sanitary Landfill	9,176,000	78,000	9,911,000
RCRA Landfill	12,646,000	78,000	18,730,000
6. Excavation and off-site disposal of Parcels 2, 3 and 4 soils			
Sanitary Landfill	1,659,000	0	1,659,000
RCRA Landfill	2,919,000	0	2,919,000
7. Higher rate well-head treatment of Maple Road Well	2,505,000	426,000	6,221,000
8. Lower rate well-head treatment of Maple Road Well	1,409,000	561,000	6,698,000
9. Interconnection with Borough of Hamburg Municipal Water System	363,000	101,000	1,315,000

Alternative 1 - No Action (restricted aquifer use)

The results of the remedial investigation indicate that there is significant contamination at the Metaltec/Aerosystems site. The former lagoon area, the green pile area, and the areas at the north loading dock and the south back door of the facility building are contaminated with hazardous substances. Parcel 1 is grossly contaminated with volatile organics, particularly trichloroethene (TCE); sub-surface samples from the lagoon area contains as much as .76% TCE, .73% tetrachloroethene, and .66% trans-1,2-dichloroethene. Inorganic contamination is as high as .80% chromium and .34% copper. Lead is also present at 40,000 ppb, slightly above the background concentration of 36,000 ppb. Approximately one third of the contaminated soils in Parcel 1 lie in the saturated zone; therefore, much of this contamination, in particular the volatile organics, is mobilized by the groundwater and is migrating to the overburden aquifer. The indicator organic chemicals found in gross concentrations in both the bedrock and surficial aquifers include vinyl chloride, 1,1-dichloroethane, 1,1,1-trichloroethane and trichloroethene, all in concentrations of at least 100 times greater than EPA proposed maximum contaminant levels in drinking water. None of these compounds were found in the background sample associated with this area. Approximately 10,000 cubic yards of soil are contaminated in the area of the former lagoon and its overflow culvert.

A groundwater monitoring program will be instituted at the Metaltec site to track the contaminant plume. This program will be carried out in conjunction with a supplemental remedial investigation and feasibility study to close the data gaps that currently exist. This monitoring program is common to all source control alternatives, i.e. Alternatives 1, 2, 3, 4 and 5.

The no-action alternative does not control the source. If the site is left in its present condition and no remedial action is taken, hazardous substances will continue to enter the groundwater. Furthermore, the presence of these contaminants constitutes a continued negative impact on the environment. Restricting the use of the aquifers underlying the Metaltec/Aerosystems site would eliminate the public health risk associated with the consumption of the groundwater.

Alternative 2 - No Action (borough well returned to service)

This no-action alternative would return the site to its status prior to the site discovery in 1980. As in Alternative 1, this no-action alternative will not control the source and the contaminants will continue to migrate into the groundwater. The aforementioned groundwater monitoring program would be instituted.

Reactivation of the municipal supply well, which pumps from the bedrock aquifer, will change the natural northward flow direction of the groundwater to an easterly direction toward the well. In addition, the natural artesian conditions of the lower, bedrock aquifer will reverse under pumping conditions. If pumping operations are resumed, it is conceivable that the level of volatile organic contamination in the municipal supply well may approach those levels found in the groundwater directly beneath the former waste lagoon. Again, this level of organic contaminAtion is at least 100 times higher than the EPA maximum contaminant levels for drinking water. The presence of these contaminants constitutes a continued negative impact on the environment. This alternative does not mitigate the source and allows contamination to be re-introduced into the bedrock aquifer. Furthermore, the level of risk to the consumers of the water pumped from the municipal supply well is unacceptable. The two noaction alternatives leave a concentrated source of contamination in the soils that will continue to migrate. These alternatives do not effectively contribute to the protection of public health and welfare and the environment. Consequently, the no-action alternatives (Alternatives 1 and 2) shall not be considered viable. This no-action alternative provides a basis for evaluating other remedial actions both in terms of their environmental benefits and associated costs.

Alternative 3 - Contaminated Soil Containment

This alternative will actively lower the groundwater table beneath the soils in Parcel 1 using a well-point dewatering system. As with the no-action alternatives, a long-term groundwater monitoring system would be initiated. The dewatering treatment scheme will include metal precipitation by pH adjustment, followed by air stripping of volatile organics and granular activated carbon (GAC) for the removal of semi-volatiles with final disposal of the treated effluent at the local POTW. Implementation of this alternative will eliminate direct contact between the contaminated soils and the groundwater, thereby preventing further contamination of the groundwater due to the percolation of water through the contaminated soil.

The public health risk associated with the unit operations of the dewatering treatment system have been assessed. The public health risk related to metal precipitation is minimal as there will not be public access to the treatment plant. Any sludge generated will be disposed of at an approved RCRA facility. However, volatile organic contaminants will be discharged into the atmosphere from the stripping tower. Table 10 shows the air-borne concentration levels that will result from the operation. These values have been assessed to be well below the level of concern associated with the 10^{-6} excess cancer risk recommended by EPA (10^{-6} excess cancer risk translates to one extra cancer death per million people exposed). Ingestion of groundwater

TABLE 10

RISK ASSOCIATED WITH THE INHALATION OF VOCs 360 FEET DOWNWIND FROM THE DEWATERING WATER TREATMENT STRIPPING TOWER

Chemical	Maximum Concentration in Ground water (ug/liter)	Emission Rate (g/sec)	Maximum Downwind Concentration (g/m^3)	Daily Intake[a] (mg/kg/day)
Vinyl chloride	2,700	4.3×10^{-3}	8.6×10^{-7}	6.7×10^{-7}
Trichloroethene	3,100	4.9×10^{-3}	9.8×10^{-7}	7.7×10^{-7}
trans-1,2-Dichloroethene	9,700	1.5×10^{-2}	3.0×10^{-6}	8.6×10^{-4}
1,1,1-Trichloroethane	2,500	4.0×10^{-3}	8.0×10^{-7}	2.3×10^{-4}
1,1-Dichloroethane	1,400	2.2×10^{-3}	4.4×10^{-7}	1.3×10^{-4}

Chemical	Carcinogenic Potency Factor $(mg/kg/day)^{-1}$	Carcinogenic Risk	Acceptable Daily Intake (ADI) (mg/kg/day)	Hazard Index
Vinyl Chloride	2.5×10^{-2}	2×10^{-8}		
Trichloroethene	4.6×10^{-3}	4×10^{-9}		
trans-1,2-Dichloroethane			1.0×10^{-1}	9×10^{-3}
1,1,1-Trichloroethane			5.4×10^{-1}	4×10^{-4}
1,1-Dichloroethane			1.2×10^{-1}	1×10^{-3}
		TOTAL	2×10^{-8}	1×10^{-2}

[a]The daily intake has been adjusted for lifetime exposure for carcinogens only.

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will still pose a significant risk from the contaminants currently present in the groundwater system. The risk would decrease over time depending on the concentration of the contaminants and the subsequent dilution and the degradation rates. However, since these rates are uncertain, the contamination of the groundwater could pose a significant risk to human health for some time into the future. In addition, the reliability of the alternative is questionable. In the event that the dewatering operation breaks down or is voluntarily shut down, the groundwater would once again be in contact with the contaminated soils. This alternative is more expensive than several other alternatives that provide a higher degree of reliability and a comparable degree of environmental protection.

Alternative 4 - Contaminated Soil Removal to a RCRA Facility (excavation and off-site disposal of Parcel 1 soils)

This remedial action will establish the aforementioned groundwater monitoring program, dewatering of the parcel, and pretreatment and discharge of dewatered effluent to the local POTW. In addition, an estimated 10,000 cubic yards of contaminated soils within the parcel will be excavated, transported off-site and ultimately disposed of in a RCRA approved facility. The precise limits of excavation will be determined as part of the remedial design effort using a soil boring sampling program and the following criteria. State and Federal remediation standards and criteria are summarized in Table 11. Action levels set for soil remediation criteria for the Metaltec site are outlined in Table 12. The criteria are based on the concept of partitioning coefficents, for the volatile organic contaminants, which give a general relationship between the concentration of contaminants in the soils and the groundwater. The partitioning coefficients for the indicator volatile organic chemicals have been calculated to equal one. This translates into a 1:1 relationship between the amount of residual contamination left in the soils and the resulting contamination of the groundwater. The soil remediation criteria for volatile organics were taken from the EPA maximum contaminant levels for drinking water (40 CFR Parts 141 and 142, November 15, 1985) to ensure that adequate protection of the groundwater is provided. The soil remediation criteria for inorganic chemicals is based on New Jersey's Environmental Cleanup Responsibility Act (ECRA) guidelines.

The risks posed by the excavation and off-site disposal are as follows. Prior to the actual excavation, the site will be dewatered, thereby reducing the risks from inhalation of volatile organic contamination associated with the groundwater. During the excavation and loading of the soil, fugitive dust may be released into the atmosphere; contaminants may adhere to the dust particles and inhalation of entrained organics could occur. The results of the risk analysis are presented in Table 13. However, the risk is overstated because the calculations for ths values

TABLE 12

SELECTED MAXIMUM ALLOWABLE CONCENTRATION LEVELS IN MEDIA OF CONCERN AT THE METALTEC/AEROSYSTEMS SITE

	SOIL			WATER			
INDICATOR CHEMICAL	NJDEP Guideline	Back-ground Level	10^6 Cancer Risk Level or Haz Index*	Ground Water	MCL*	Partition Coefficient	SOIL REMEDIATION CRITERIA
VOCs		ug/kg	ug/kg	ug/l			ug/l
Vinyl chloride	Total Volatiles not to Exceed 1 mg/l	ND	0.015	0.015	5	1.0	5
trans-1,2-Dichloroethene		ND	27	27		1.0	
Trichloroethene		ND	3.1	3.1	5	1.0	5
Tetrachloroethene		ND	0.67	0.67	5	1.0	5
Chloroform		ND	0.19	0.19	100	1.0	100
1,1,1-Trichloroethane		ND	20*	20	200	1.0	200
1,1-Dichloroethane		ND	0.033	0.033	5	1.0	5
Metals	mg/kg	mg/kg		mg/l			mg/kg
Chromium (total)	100	ND		0.050	50		100
Zinc	350	370		5.0			350
Lead	100	36		0.020			100
Copper	170	ND		1.0			170
Manganese		930		0.050			
Column:	(1)	(2)	(3)	(4)	(5)	(6)	

Notes: ND Not Detected
* Chemical is non-carcinogenic and therefore a hazard is developed.

Column (1) NJDEP standards developed under ECRA
Column (2) Background levels determined during remedial investigation
Column (3) Risk level based on partition coefficients and drinking water risk level or hazard index
Column (4) Maximum values for protection of drinking water quality (Safe Drinking Water Act)
Column (5) Maximum Contaminant Levels (MCL) - Federal Register, November 15, 1985
Column (6) Partition Coefficients as detemined by Hydroqual, Inc.

TABLE 13

RISK ASSOCIATED WITH THE INHALATION OF SOIL CONTAINING INDICATOR CHEMICALS 200 FEET DOWNWIND FROM THE FORMER LAGOON AREA DURING SOIL REMOVAL

Indicator Chemical	Maximum Concentration in Soil (mg/kg)	Downwind Concentration (g/m^3)	Effective Daily Intake[a] (mg/kg/day)	Carcinogenic Potency Factor (mg/kg/day)
Carcinogens				
Chromium(VI)[b]	8,000	8.0×10^{-10}	1.3×10^{-9}	4.1×10^{-1}
Trichloroethene	7,600	7.6×10^{-10}	1.3×10^{-9}	4.6×10^{-3}
Tetrachloroethene	710	7.1×10^{-11}	1.2×10^{-10}	1.7×10^{-3}
Noncarcinogens				
trans-1,2-Dichloroethene	6,600	6.6×10^{-10}	9.4×10^{-8}	
1,1,1-Trichloroethane	17	1.7×10^{-12}	2.4×10^{-10}	
Copper	3,400	3.4×10^{-10}	4.9×10^{-8}	
Zinc	1,000	1.0×10^{-10}	1.4×10^{-8}	
Lead	40	4.0×10^{-12}	5.7×10^{-10}	
Manganese	390	3.9×10^{-11}	5.6×10^{-9}	

Indicator Chemical	Carcinogenic Risk	Acceptable Daily Intake (ADI) (mg/kg/day)	Hazard Index
Carcinogens			
Chromium	5×10^{-8}		
Trichloroethene	6×10^{-12}		
Tetrachloroethene	2×10^{-13}		
Noncarcinogens			
trans-1,2-Dichloroethene		1.0×10^{-1}	9×10^{-7}
1,1,1-Trichloroethane		1.1×10^{-1}	2×10^{-11}
Copper		1.0×10^{-2}	5×10^{-6}
Zinc		1.0×10^{-1}	1×10^{-7}
Lead		4.3×10^{-4}	1×10^{-6}
Manganese		3.0×10^{-4}	2×10^{-5}
TOTAL	5×10^{-8}		3×10^{-5}

Note: Although vinyl chloride is considered an indicator chemical, it has never been found in the soils at the Metaltec/Aerosystems site. Therefore, it is not considered in this remedial alternative.

[a]The effective daily intake has been adjusted for lifetime exposure for carcinogens only.

[b]Chromium (VI) is a carcinogen by inhalation.

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presented in the table account for the lifetime daily intake whereas the excavation is expected to take only one month. Other risks involve the transportation of materials to an off-site facility. Approximately 500 trucks will enter and haul waste from the site. The trucks will cause an unusually large amount of traffic on the rural roads.

This alternative effectively mitigates the contaminant source present in Parcel 1. It is proven reliable and will be of benefit to the environment and to the long-term public health of the community.

Alternative 5 - Contaminated Soil Treatment and Removal (excavate and treat Parcel 1 soils to remove volatile organics)

This remedial action will also establish the aforementioned groundwater monitoring program and the dewatering program with pretreatment and discharge to the local POTW. Contaminated soils within the parcel will be excavated using the remediation criteria discussed previously and in addition, the contaminated soil will be treated with heat either on-site or off-site, depending on available space, to drive off volatile organic contaminants. Approximately one acre of land will be needed to house the treatment facilities that would comply fully with relevant and appropriate RCRA guidelines. An estimated volume of 10,000 cubic yards of contaminated soil will be treated to remove volatile organics. Subsequently, the treated soil will be disposed of in an approved RCRA or other appropriate landfill facility depending on the nature and level of residual soil contamination.

Two treatment technologies are being evaluated in this alternative. In theory, contaminants from the soil can be successfully volatilized by heating the soil material, thereby forcing the contaminants into the vapor phase. The two following sub-alternatives are identical except for the equipment involved. Alternative 5A employs this theory using an asphalt dryer to heat the soils passing the off-gas through a heat exchanger and then gas scrubbing via granular activated carbon to purify the air emissions. Alternative 5B employs a convential incinerator to heat the soils, operating at lower than normal temperatures, and treatment of the emissions in an afterburner.

Removing contaminants from the soil, as described in this alternative, is considered more reliable than disposing of excavated soils in a landfill. The required equipment has been used extensively, albeit in other applications. No extraordinary benefits or disadvantages are associated with the safety of these technologies. Pilot testing will be required during the design phase to accurately assess the effectiveness of this soil treatment approach.

The risk to public health in regard to the dewatering operation, and the excavation activities have been assessed in previous al-

ternatives. In addition, temporary storage prior to treatment may pose a threat if the soil is not kept dry and a leachate is produced. However, this is not an area of concern as the storage area will comply with all appropriate RCRA storage requirements including a double liner and leachate collection system. If the volatilization system is adequate, there will be virtually no discharge of contaminants to the air. Consequently, there is no threat to public health.

The major benefit of this alternative is to the environment as a whole. This alternative effectively mitigates the source of contamination of the soils in Parcel 1, as well as greatly reducing the amount of contamination that will remain at the site. This alternative is judged to be superior to no action and the previously discussed source control alternatives in that the contaminant source is removed, mitigation of the source is achieved, and the volume of contaminated materials is significantly reduced.

Alternative 6 - Contaminated Soil Removal (excavation and offsite disposal of Parcels 2, 3 and 4)

This remedial alternative does not stand alone; it is intended to provide increased protection to meet the requirement of the National Contingency Plan to assess an alternative which exceeds standards. This alternative may be combined with either Alternative 4 or 5. Parcels 2, 3 and 4 contain a variety of primarily inorganic and semivolatile organic chemicals. Available sampling data indicate that the soil in Parcels 2 and 3 is contaminated to the extent that it is classifiable as a hazardous waste under RCRA. In addition, the concentrations of inorganic and semivolatile contaminants are in excess of cleanup guidelines under the State of New Jersey's Environmental Cleanup Responsibility Act (ECRA). There are no Federal standards under RCRA applicable to contaminated soils within Parcel 4. However, similar to Parcels 2 and 3, contaminated levels exceed ECRA cleanup guidelines.

In view of the foregoing, State requirements will be considered in determining the need for, and the extent of, soil cleanup for Parcels 2, 3 and 4. The removal of these parcels will provide an incresed level of protection to public health in the event of any future disturbance of the contaminated soils. Cleanup guidelines under the State's ECRA program are based on health risk assessments for particular sites. Therefore, excavation of Parcels 2, 3 and 4 soils will be in accordance with ECRA guidelines as shown in Table 12. Pending the results of additional testing during design, these soils may be disposed of at RCRA approved or other appropriate landfill facilities.

The supplemental activities beyond Alternatives 4 and 5 include additional dewatering operations, treatment and excavation activities. Therefore, the additional risks to public health

are minimal. The benefit to the environment is substantially increased, as virtually all soil contamination identified at the Metaltec site will be removed from the environment.

Alternative 7 - High Rate Treatment of Maple Road Municipal Supply Well

This remedial action replaces the quantity of water lost to the Borough of Franklin as a result of the Metaltec site. The alternative will return the municipal supply well to service, with treatment of contaminated well water at the well-head, as necessary, to augment the borough's surface water supply. The system will be operated at the same rate the well operated prior to 1980. It is estimated that this well can supply approximately 100,000 gallons of quality drinking water per day. But, the municipal well should not be reactivated until the source remediation operation is completed.

The treatment will consistently produce drinking water that will meet primary drinking water standards, thus posing no threat to public health. From an environmental impact perspective, this alternative restores the utility of a locally valuable groundwater resource. However, it does not address the large volume of contaminated soil at the site.

Alternative 8 - Low Rate Treatment of Maple Road Municipal Supply Well

This alternative provides the same benefits as Alternative 7, but uses a low flow rate treatment system in place of the higher flow rate system. The capital cost of this alternative is slightly lower than Alternative 7, and the operation and maintenance cost is slightly higher. Overall, this alternative has a slightly higher present worth value.

Alternative 9 - Interconnection with Borough of Hamburg Water Supply System

This alternative extends the Hamburg municipal water supply into the Borough of Franklin. From an engineering perspective, this is a simple and reliable alternative to implement. However, it is not certain when a firm agreement could be reached between the two municipalities.

The alternative provides high quality drinking water to consumers and poses no public health risk. However, it does not effect remediation of the groundwater contamination caused by the Metaltec site but simply supplies the borough with an alternate water source.

DISCUSSIONS

The alternatives developed for remediating soil at the Metaltec site fulfill the National Contingency Plan requirement in that at least one alternative from each of the following groups is considered: the no-action alternative; alternatives that do not attain applicable or relevant environmental standards but provide significant protection to public health, welfare and the environment; alternatives that exceed applicable or relevant environmental standards; alternatives that attain applicable or relevant environmental standards; and alternatives that use treatment or disposal at an off-site facility. In accord with the off-site policy, alternatives that utilize treatment in addition to, or in place of, land disposal have been carried through the screening process. Alternatives that utilize only on-site treatment and disposal have also been developed.

Several alternatives were dropped from further consideration in initial screening. The reasons for eliminating these alternatives were discussed previously and are summarized as follows:

- the containment alternative (Alternative 3) using a groundwater pump and treat system is considered relatively unreliable and ineffective. The alternative depends on groundwater pumping to separate the contaminated soils from the area's groundwater. Since the source deposits of waste would remain at the site, groundwater pumping would be required indefinitely. If the groundwater pumping system proves ineffective or it is ever discontinued, continuous release of contaminants into the groundwater will resume. This would consitute a violation of applicable RCRA regulations.

- both the no-action alternatives (Alternatives 1 and 2) fail to meet any of the remedial objectives and would allow at least part of the source of concentrated hazardous materials to continually leach into the area's groundwater. The site would remain a threat to public health, welfare and the environment.

The remaining alternatives (4, 5 and 6) are similiar in the fact that they all include excavation options, however, they differ in the methods of disposal. These alternatives remove the contaminated soil and offer protection from future exposure to this hazardous material. If Alternative 4 or 5 is implementated, the contaminated soils in Parcel 1 will be excavated down to the concentrations identified in Table 12. By opting for Alternative 6, the additional excavation of Parcels 2, 3 and 4, the site is virtually returned to near background conditions. Alternatives 7, 8 and 9 all involve the provision of an alternate public water supply. These alternatives are designed to supply the borough with a water resource that has been lost as a result of contamination from the site. Either the low-flow or high-flow treatment alternatives (Alternatives 7 and 8) or the interconnection with the Borough of Hamburg (Alternative 9) will provide quality drinking water.

COMMUNITY RELATIONS

On May 30, 1986, EPA made the draft RI/FS report available for public comment by placing two copies of the documents in public repositories at the Franklin Borough Municipal Building and the Franklin Borough Library. In addition, a copy was sent to Mr. Charles Fletcher, owner of the Metaltec/Aerosystems site and Mr. Fenton Purcell of Lee T. Purcell Associates, an engineering consulting firm under contract to Franklin Borough. The public was notified of the availability of the documents by letter to all those on the Metaltec/Aerosystems site mailing list. A public meeting to discuss the results of the RI/FS was held in Franklin on May 17. The public comment period extended from May 30 to June 27, 1986. The written public comments and consequent responsiveness summary are appended to this document.

CONSISTENCY WITH OTHER ENVIRONMENTAL LAWS

Compliance With RCRA

The remedial alternatives (Alternatives number 1 through 6) developed for the Metaltec/Aerosystems site were examined to determine to what extent they would mitigate the source of contamination at the site. For the purpose of evaluating compliance of these alternatives with RCRA, the property line was used as the facility boundary. Alternatives were assessed with regard to the potential for contamination to migrate beyond this boundary. The mechanism for such migration is convection with the groundwater. This migration could also carry site contaminants into the unnamed tributary to Wildcat Brook which could constitute a violation of Clean Water Act regulations as well.

Excavation of Parcels 1, 2, 3 and 4 reduces any releases from the site to below background levels. Excavation of solely Parcel 1 will allow some continued release of contaminants from the remaining parcels into the underlying aquifers. Aquifer remediation was not examined at this time but will be addressed in the supplemental groundwater RI/FS for the site. The contaminants released after excavation will be less concentrated than current levels. Other than the excavation alternatives (4, 5 and 6), all source-related alternatives (1, 2 and 3) allow some degree of permanent migration of contamination from the site.

The development of a supplemental groundwater RI/FS and concurrent monitoring program should be consistent with the principles and regulatory requirements of 40 CFR §265, Subpart F with emphasis on the following:

- fill in the gaps in the current understanding of the site's hydrogeology (40 CFR §265.90(a), §265.91, and §270.14(1)).
- determine the horizontal and vertical extent of the contaminated groundwater plume (40CFR §265.93(a)(2)).
- determine the rate of migration of the contaminated groundwater plume (40 CFR §265.93(a)(2)).

The supplemental groundwater RI/FS will also develop alternative technologies for corrective action for off-site contaminant releases beyond the Metaltec property boundary consistent with Section 3004(v) of RCRA.

RECOMMENDED ALTERNATIVE

The National Oil and Hazardous Substance Pollution Contingency Plan, in 40 CFR Part 300.68(i), specifies that the lead agency will select "...a cost-effective remedial alternative which effectively mitigates and minimizes threats to and provides adequate protection of public health, welfare and the environment. This will require selection of a remedy which attains or exceeds applicable or relevant Federal public health or environmental standards..." In addition, 40 CFR Part 300.68(c) states that "Response action may be conducted in operable units... In some instances, implementation of operable units can and should begin before selection of an appropriate final remedial action if such measures are cost-effective and consistent with a permanent remedy." Evaluation of the suggested remedial alternatives leads to the conclusion the action described below is a cost-effective operable unit consistent with a permanent remedy for the Metaltec/Aerosystems site.

Additional groundwater study in conjuction with a monitoring program will be part of the final remedy. To close the data gaps in the hydrogeological study, additional work items, including well locations and a sampling program, are recommended in the future actions section of this document.

This part of the evaluation will focus on remediation of contaminated soils within Parcel 1. Two alternatives (Alternatives 4 and 5) are being considered for remediation of Parcel 1 soils. Both alternatives involve excavation of contaminated soils down to the levels set by the partitioning coefficient calculations (see Table 11). Therefore, the cleanup criteria for the organic substances in the soil are linked to Maximum Contaminant Levels for drinking water and the cleanup criteria for the inorganic substances are based on New Jerseys ECRA guidelines (see Table 12). The alternatives differ in the disposal option for the excavated soils. The first option, Alternative 4, involves off-site disposal in accordance with RCRA requirements and the CERCLA Off-Site Policy. The second option, Alternative 5, involves treating the contaminated soils by heat addition, thereby driving off/removing the volatile organic contamination and discusses two treatment methods that would achieve this objective. The treated soils could potentially be delisted as a hazardous waste and subsequently placed in a sanitary landfill. This would depend on the nature and level of residual contamination, information which will be obtained from pilot studies to be conducted as part of the design effort.

Removal of the contaminated soil will require a dewatering operation in conjunction with the excavation activities. Costs for these activities are common to Alternatives 4 and 5. Consider-

ation must be given to the overall benefit of treating the soil to remove nearly 100 percent of the volatile contamination before disposal of the treated soil at an appropriate landfill facility compared to simply shipping the contaminated soil to a hazardous waste landfill. The environment is better served if this soil is treated and the chemical contaminants permanently removed. Consideration must also be given to the fact that the treatment unit must be pilot tested during the design of the selected remedy. If this design proves ineffective, disposal to a hazardous waste facility (Alternative 4) can be retained as a contingency. Finally, this treatment option is in accord with the National Contingency Plan and EPA policy that favors alternative treatment remedies.

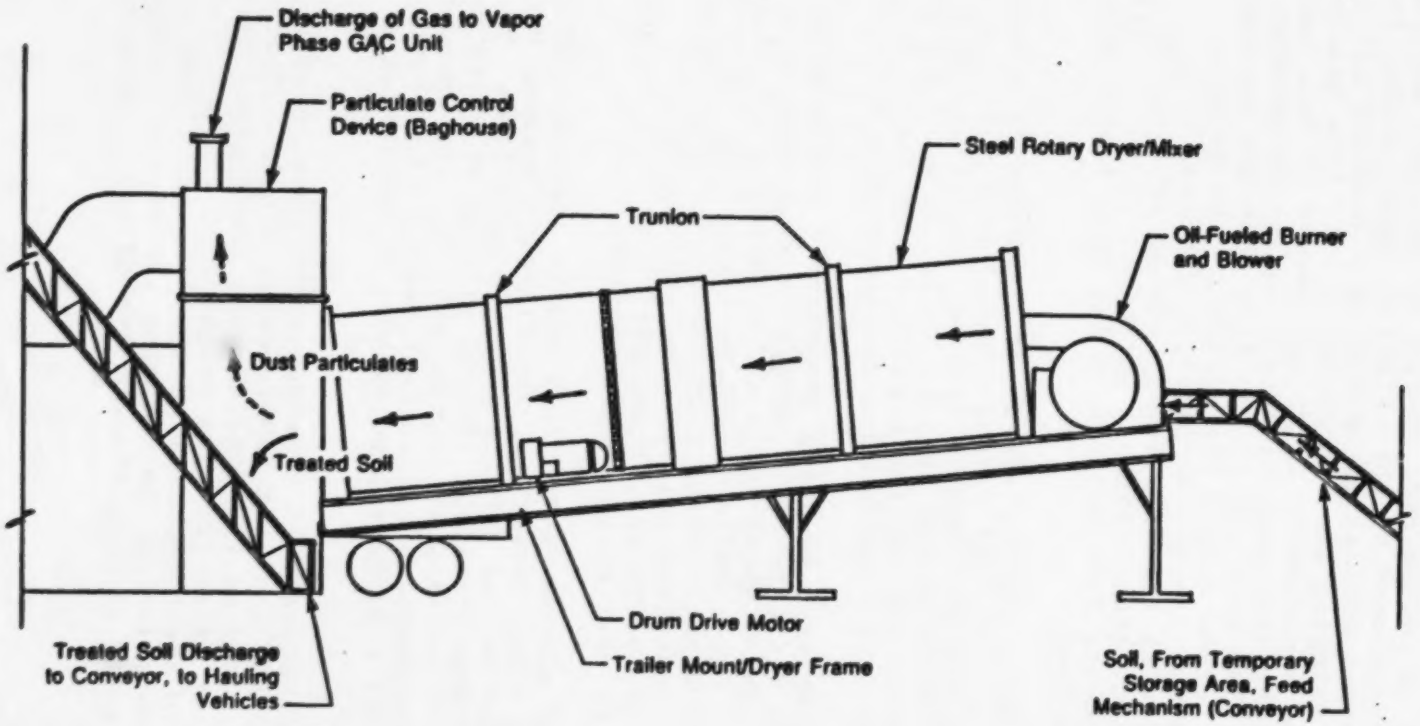
Alternative 5 utilizing the asphalt dryer technique is considered the appropriate remedy for the Parcel 1 soils (see Figure 13). This alternative is the most cost-effective, environmentally-sound, and protective of public health. Since it only addresses the contaminant source and not the resultant groundwater contamination, Alternative 5 is considered a first operable unit.

In addition, Alternative 6 is being recommended for remediation of Parcels 2, 3 and 4 soils. This operation will consist of excavation of the contaminated soils and disposal at an off-site landfill facility. These soils cannot be treated in the same manner as the soils within Parcel 1 in that the contamination is primarily of an inorganic nature. The removal of this additional 4000 cubic yards of contaminated soil will return the Metaltec site to near background conditions.

The final series of alternatives (7, 8 and 9) involve restoration of a lost drinking water resource. The Franklin Borough Municipal Supply Well has been out of service since January 1980. The well once supplied approximately 100,000 gallons of water per day to the borough's water distribution system. The Borough of Franklin has independently hired an engineering consultant firm, Lee T. Purcell Associates, to explore alternate water supplies.

At this time, Alternative 9 is considered the most appropriate alternative to replace the lost public water supply. This recommendation is based on the considerably lower costs associated with the purchase of water from the neighboring community of Hamburg compared to the high costs of treating the closed Franklin Borough Well. A decision on the ultimate use of the borough well is being deferred pending the outcome of the supplemental groundwater RI/FS.

FIGURE 13


Discharge of Gas to Vapor Phase GAC Unit
Particulate Control Device (Baghouse)
Steel Rotary Dryer/Mixer
Trunion
Oil-Fueled Burner and Blower
Dust Particulates
Treated Soil
Drum Drive Motor
Trailer Mount/Dryer Frame
Treated Soil Discharge to Conveyor, to Hauling Vehicles
Soil, From Temporary Storage Area, Feed Mechanism (Conveyor)

ROTARY DRYER/MIXER WITH AIR POLLUTION CONTROL
METALTEC/AEROSYSTEMS, FRANKLIN, NEW JERSEY

OPERATION AND MAINTENANCE

Operation and maintenance costs associated with a combination of Alternatives 5 and 6 are related to the long-term groundwater monitoring program. The cost of these activities is anticipated to be $78,000 per year. Environmental monitoring will be required until effectiveness of the remedy is assured. The operation and maintenance cost for Alternative 9, interconnection with the Borough of Hamburg, is estimated to be $101,000 per year.

Schedule: Project Milestones	DATE
-approve remedial action	June 1986
-complete enforcement negotiations	
-sign State Superfund Contract*	July 1986
-initiate design*	July 1986
-complete design*	March 1987
-initiate supplemental groundwater RI/FS*	July 1986

*dependent on CERCLA reauthorization

Future Actions

Additional studies, required to assess the extent of groundwater contamination, have been discussed throughout this document. Recommended additional work items for the supplemental RI/FS will include the following:

- A second set of groundwater samples should be collected from all of the wells sampled during the remedial investigation to confirm the conclusions developed in the feasibility study.
- Surface water and sediment samples should be collected from the unnamed stream and marsh area on the northern side of the intersection of Wildcat and Gilson Roads and approximately 350 feet downstream of the intersection. This will confirm the hypothesis of subsurface seepage migrating from the former lagoon and into the stream and determine if any residual soil contamination exists.
- A deeper well should be installed to determine the vertical extent of contaminated groundwater. This well should be sampled to determine the interface of contaminated vs. uncontaminated groundwater.

- An additional overburden well and bedrock well should be installed downgradient of the former lagoon in the Kittatinny Formation as shown on Figure 5-3. The bedrock well should be drilled through the entire thickness of the Kittatinny Formation and into the underlying Precambrian Gneiss. This will help determine the downgradient extent of the contaminated groundwater.

- An additional overburden well and bedrock well should be installed adjacent to the Kittatinny Formation-Precambrian Gneiss contact. The bedrock well should be installed on the gneiss side of the contact. This will help determine the lateral extent of contamination in the gneiss and the influence of the contact zone on the migration of contamination.

- Additional samples should be collected from the Metaltec process well and the Vargennes well to isolate zones within the wells. This will help determine the vertical extent of contaminated groundwater.

The data from the above-described investigative work will be used to accurately access the full extent of groundwater contamination resulting from the Metaltec site. This information will in turn form the basis for the identification and evaluation of appropriate remedial alternatives to address the groundwater contamination problem as required under RCRA. A remedy for the groundwater plume will be the subject of a subsequent Record of Decision for the Metaltec/Aerosystems site.

ATTACHMENTS

Attachment #1: Responsiveness Summary

FINAL RESPONSIVENESS SUMMARY

TO THE

DRAFT FEASIBILITY STUDY REPORT

METALTEC/AEROSYSTEMS SITE
FRANKLIN, NEW JERSEY

PUBLIC COMMENT PERIOD
May 29, 1986 to June 27, 1986

On May 29, 1986, the U.S. Environmental Protection Agency (EPA) in Region II began its public comment period on the draft feasibility study of alternatives to clean up hazardous waste contamination at the Metaltec/Aerosystems site located in the Borough of Franklin, Sussex County, New Jersey. The purpose of this document is to summarize the community relations and technical concerns about the draft feasibility study expressed by residents, local officials, and other interested parties during the public comment period.

The responsiveness summary is divided into three sections:

Section A. Background on community involvement. This section provides an overview of community interest and involvement in the Metaltec/Aerosystems site. In addition, this section describes community relations activities that have been conducted at the site.

Section B. Summary of questions and comments received by EPA and EPA responses during the public meeting held on June 17, 1986, during the public comment period. This section summarizes verbal comments by local officials and residents at the public meeting on the draft feasibility study of the alternatives for remediation of the Metaltec/Aerosystems site.

Section C. Summary of outstanding community concerns and EPA's response. This section summarizes outstanding community concerns about the remedial alternatives being considered for the site. These concerns are decribed to assist EPA in planning community relations activities during the design and construction of the selected remedial alternative. In addition, this section includes EPA's response to these outstanding community concerns.

A. Background on Community Involvement and Community Relations Activities at the Metaltec/Aerosystems site.

From 1965 until the mid-1980s, the Metaltec Corporation, a subsidiary of Aerosystems Technology Corporation, manufactured metal lipstick cases, pen parts, and cartridge cases. During its operations, the Metaltec Corporation used trichloroethlene (TCE), a volatile organic compound as a degreaser of its metal parts.

The Metaltec manufacturing facility was located at the intersection of Maple and Wildcat Roads, in the Borough of Franklin, Sussex County, New Jersey. Currently, several light manufacturing businesses, including an ice packing business and a glass blowing business, are located on the site of the former Metaltec facility. The site encompasses approximately 15.3 acres south of Maple Road and both east and west of Wildcat Road.

Several residential properties and small farms are located adjacent to and surrounding the site. In addition, a private golf course is located northwest of the site. Franklin Pond, the primary drinking water source for the Borough, is located approximately three-fourths of a mile, northeast of the site. The Borough of Franklin Water Supply Well, a secondary water supply source, is situated approximately 400 feet to the east of the site.

Nearby residents in the Borough of Franklin became concerned about possible hazardous waste contamination from the former Metaltec manufacturing facility following a site inspection by the New Jersey Department of Environmental Protection (NJDEP) in 1980. The NJDEP sampling results indicated that volatile organic compounds were present in the facility's waste-water lagoon and surrounding soil. Also in 1980, NJDEP sampled the Borough of Franklin Water Supply Well and several nearby residential private wells. The NJDEP sampling results from the Borough of Franklin well and the four residential private wells showed excessive concentrations of volatile organic compounds.

Residents and Borough of Franklin officials became alarmed at the possiblity of hazardous waste contamination to the drinking water supply in the vicinity of the Metaltec facility. Due to the presence of volatile organics in the area's ground water, the Borough of Franklin Water Supply Well and affected private water wells were closed. Residents with affected private water wells were connected to the municipality's primary water supply, the Franklin Pond.

In late 1981, under NJDEP supervision, the Metaltec Corporation removed some contaminated waste from the lagoon including remnants from a 55-gallon drum, metal pen parts, bottles, and other debris. In 1982, the Metaltec Corporation partially excavated and filled the waste-water lagoon. Nearby residents, observing the removal and excavation on the property, expressed concern to local officals and to each other about the potential impact of the hazardous waste contamination on properties adjacent to the site.

In June 1984, EPA and NJDEP signed a State Superfund Contract to perform a remedial investigation/feasibility study(RI/FS) at the Metaltec/ Aerosystems site. EPA prepared the RI/FS work plan during late 1984 and early 1985.

On April 3, 1985, EPA held a public scoping meeting in the Borough of Franklin to provide: (1) a description of the Superfund program; (2) a background history of the site; and (3) an overview of the RI/FS work plan. Approximately fifteen Borough of Franklin officials, residents living near the site, and NJDEP officials attended the meeting. EPA prepared a two-page fact sheet and enlarged site maps to identify the site boundaries and the sampling locations. Participants at the public scoping meeting expressed concerns about the following:

- Ground-water and surface-water contamination;
- Adequacy of sampling and testing methodology;
- Impact of the RI/FS on nearby residential property values;
- Potential health risk to humans and animals in the vicinity of the site;
- Cost of selected remedial action and who pays; and
- Future housing developments in the vicinity of the site.

Several residents and Borough of Franklin officials requested that EPA provide to community members information about the site on a regular basis during the RI/FS. In addition, several residents complained that the public scoping meeting had not been publicized widely. These residents requested that EPA provide timely and accessible announcements about future public meetings.

The remedial investigation (RI) field work was conducted between May and October 1985. During the RI, several residents called the EPA remedial project manager to receive a verbal status report about technical activities at the site. The EPA remedial project manager also provided information to local residents and Borough of Franklin officials on a regular basis. In addition, EPA contractor field staff distributed community information handouts to interested citizens. These handouts explained the purpose of the field activities and provided the name and telephone numbers of community and technical contacts at EPA.

EPA disseminated sampling results of the residential private wells to homeowners and Borough of Franklin officials. The EPA remedial project manager called residents with sampling results as well as mailed letters and results packets to these residents.

EPA maintains two information repositories near the site. The information repositories are located at the Borough of Franklin Municipal Building and the Borough of Franklin Public Library.

On May 29, 1986, EPA released the RI/FS report to the public and opened its public comment period. On June 17, 1986, EPA conducted a public meeting at the Borough of Franklin Municipal Building. Approximately forty interested residents and local officials attended the meeting. In addition, two representatives of NJDEP were present at the session. EPA closed its public comment period on June 27, 1986.

B. Summary of questions and comments received by EPA and EPA responses during the public meeting on the draft feasibility study (FS) report on the Metaltec/Aerosystems Site.

The first section of this responsiveness summary described the community involvement and community relations activities conducted by EPA. This section of the document summarizes concerns expressed by citizens during the public meeting held on June 17, 1986 during the public comment period on the draft FS report.

Selection of Remedial Action Alternative

Residents living near the Metaltec/Aerosystems site and Borough of Franklin officials expressed major interest in how EPA plans to remedy the site. The paragraphs below summarize key concerns stated by interested community members about the proposed remedial action alternatives.

Alternative 1 and Alternative 2 - No Action. Generally, participants agreed with EPA that the "no action" alternatives were unacceptable. Neither alternative 1 (involving no soil or ground-water remediation with restricted aquifer use) nor alternative 2 (involving no soil or ground-water remediation and operation of the Borough of Franklin Water Supply Well with no treatment) addressed the public's concern about the impact of hazardous waste contamination from the site on surrounding soil and ground water.

- EPA stated that the two "no-action" alternatives (Alternatives 1 and 2) are unacceptable from a public health perspective. Neither alternative 1 or 2 mitigate the continued release of hazardous substances into the area ground and surface-water systems.

Alternative 3 - Contaminated soil containment. A resident who owns a section of property with a horse corral within the largest contaminated parcel of land expressed concern about whether the land could be used in the future if EPA selected alternative 3. Although contamination would be contained by lowering the water table below the contaminated soil under alternative 3, this resident believes that any restriction on her property is unacceptable. In addition, other residents living near the site voiced opposition to restricting access to a section of Wildcat Road that is also included within the boundary of the largest contaminated parcel of land on the site.

- EPA stated that Alternative 3 has been deemed unreliable, although containing the contaminated soil is technically feasible. This alternative, while actively lowering the ground-water table, requires continuous operation and maintenance, and permanently restricts the use of the entire parcel.

Alternative 4 - Contaminated soil removal to a Resource Conservation and Recovery Act (RCRA) permitted facility and disposition of treated extracted ground water. Two residents asked where EPA disposes the soil after it is excavated from the site. In addition, several residents asked whether holes would be left on the property or clean fill would be brought to the site and the property landscaped.

Interested community members and local officials asked whether the Sussex County Municipal Utilities Authority (MUA) was permitted to accept treated ground-water from the vicinity of the excavated area. One resident asked if the volume of treated ground water would impact significantly on the amount of treated and waste water which the Sussex County Municipal Utilities Authority is allowed to accept.

- EPA stated that the excavated soil will be disposed off-site in an approved RCRA landfill. EPA explained that the open hole from the excavated area will be filled with clean soil. The dewatering operation that will be performed concurrently with the excavation will generate contaminated water. This water will be pretreated and discharged to the Sussex County MUA facility after pretreatment. EPA has held preliminary discussions with the Sussex County MUA. MUA representatives indicated that the facility is capable of accepting and treating the pretreated ground water. In addition, these representatives expressed interest in receiving the treated ground water at the facility.

Alternative 5 - Contaminated soil treatment. A resident asked how the soil would be treated. This resident asked specifically about the rotary dryer being considered by EPA. In addition, this resident asked whether soil with residual contamination would remain after it is treated. Several residents asked whether volatile organic compounds would be released into the air during the treatment of contaminated soil on or near the site. Residents expressed concern that by heating and driving off volatile organics from the contaminated soils, hazardous waste contamination would affect the air quality. Residents asked how carbon filters will prevent the volatile organics from escaping from the treatment system.

- EPA explained that the organic contamination in the soil would be driven out by adding heat. The gas released by the drying process will be collected in a granular activated carbon unit (GAC). The residual soil will be analyzed. Based on these results, EPA will attempt to delist the waste soil as non-hazardous; subsequently, EPA intends to dispose of the waste soil in a sanitary landfill. The concept of a GAC unit was explained and preliminary calculations indicate there will be no health threat as a result of escaping volatile organics into the air. EPA said that a pilot study will be conducted during the design phase to insure that the design is appropriate. The duration of the Remedial Action (i.e., the dewatering, excavation and treatment) should take place within 3 to 6 months.

Residents and local officials asked about the schedule for conducting the pilot study and for testing the effectiveness of this type of treatment system for soils at the site.

Alternative 6 - Contaminated soil excavation of parcels 2, 3, and 4 within the site boundary. Generally, residents and local officials supported excavation and removal of contaminated soil from all affected parcels on the site including parcels 2, 3, and 4.

- o EPA responded that the three remaining parcels will be evaluated according to RCRA and the State of New Jersey Environmental Compliance Responsibility Act (ECRA) guidelines. In consultation with NJDEP, EPA has conducted preliminary discussions which indicate that these parcels will indeed be removed. The EPA Regional Administrator will make the final decision about whether parcels 2, 3, and 4 will be excavated.

Alternative 7 and 8 - Well-head treatment using an intermittent high rate system or a continuous low rate system, respectively. A local offical asked EPA to clarify whether alternatives 7 and 8 meant that water could be treated to drinking water standards. This local official asked, if EPA were to select well-head treatment at the Borough of Franklin Water Supply Well, who would pay for the treatment plant and the operation and maintenance of the system. A resident asked who would be responsible to do the following: (1) operate and maintain the treatment plant; (2) provide training to employees who were running the plant; and (3) supervise the operation of the plant.

Several residents asked what effect the pumping action from the Borough of Franklin Water Supply Well might have on other private water wells in the area. A resident asked if the pumping action might be different under drought conditions.

- o EPA assured the public that the Borough of Franklin Water Supply Well could be treated to meet drinking water standards. At this time according to the Comprehensive Emergency Response and Liability Act (CERCLA), the federal government will pay for the capital costs and the State of New Jersey will pay for the operation and maintenance costs of the treatment plant. Under this type of program, the State of New Jersey subcontracts to the municipality to maintain the treatment plant. EPA explained that the reactivation of the Borough of Franklin Water Supply Well would probably not draw water from any active local private wells because of the hydrogeological conditions at the site. EPA said that all nearby residents whose wells may be potentially affected are already on a public water supply.

Alternative 9 - Connection to the Borough of Hamburg Public Water Supply System. A local official asked whether EPA would pay for the hook-up connection to the water supply in the Borough of Hamburg. A consultant for the Borough of Franklin stated that he did not know of an existing surplus water supply in the nearby Borough of Hamburg. In addition, the consultant asked why EPA gave Alternative 9 a negative rating under its evaluation of institutional criteria. A resident asked the mayor whether the Borough of Franklin had an agreement with the Borough of Hamburg Public Water Supply System to purchase water from the Borough of Hamburg.

- EPA stated that the most cost-effective alternative for supplying the 100,000 gallons of water/day lost to the Borough of Franklin from the contaminated municipal well is the purchase of water from the Borough of Hamburg Public Water Supply System. The Borough of Franklin, however, is currently negotiating a contract with the Borough of Hamburg for the purchase of additional water. Because EPA does not know whether an agreement for Franklin to purchase Hamburg water will be reached by the two municipalities, EPA provided a negative rating for this alternative. EPA will consider the Hamburg water supply as a viable source when the municipalities have reached agreement.

Possible Remedial Option - Identification of an Alternate Water Supply

A consultant for the Borough of Franklin asked whether EPA would consider an alternate water source (if one were identified in the future) to replace the contaminated source of borough water. The consultant asked whether EPA would consider amending the Record of Decision (ROD) to select this more cost-effective solution if an alternate water supply were identified after the ROD was signed.

- EPA stated that it would fund another alternative to replace the lost water supply, namely a new well location. This alternative was screened out as a result of failed efforts by the Borough over the last five years to locate another well.

The consultant asked if the Superfund would pay for the cost of an investigation to identify an alternate water source within the Borough of Franklin. Specifically, he said the Borough of Franklin was interested in studying the viability of a surface-water source called the "open cut". The consultant asked if Superfund would pay for the cost of determining whether the "open cut" was contaminated from any source. A resident asked whether the Borough of Franklin was obligated by the State or EPA to look within the municipality's limits to locate an alternate water source.

- EPA stated that Superfund is not authorized to provide funding to the Borough of Franklin to investigate the "open-cut" as a possible alternate water supply. Local officials and representatives from EPA acknowledged that a concern exists that the "open cut" may be or may potentially be contaminated from mining operations in the vicinity of the surface-water source. EPA said that the "open cut" must be investigated prior to being considered a viable alternate water supply for the Borough of Franklin. EPA said that the Borough of Franklin was not obligated by the State or EPA to remain within the limits of the municipality to identify an alternate water supply.

Nature and Extent of Contamination

The owner of the former Metaltec/Aerosystems manufacturing facility asked if vinyl chloride had been identified at the site. The owner of the facility questioned whether trichloroethene (TCE) breaks down in the soil to produce vinyl chloride as EPA has described in its RI report. The owner said that three university experts claim that the two compounds are not related. He said that he would share the information that he had gathered with EPA.

A resident whose property is affected by hazardous waste contamination at the site asked why the entire parcel of land illustrated on the site map in the report had to be excavated or treated. She said that she believed only part of her property was affected. Another resident asked EPA to explain how the geology in the vicinity of the site affected the mobility of the contamination and its ability to affect various private water wells near the site boundary. A resident asked whether it was possible for her well to draw contamination from the rear of her property into her private water well.

- EPA believes that the TCE at the site biodegrades into trans 1-2, dichloroethene and eventually into vinyl chloride. EPA will investigate, however, any new information about the nature of the contamination at the site which might dispute this hypothosis.

  EPA stated that the size of the parcels of land have been conservatively estimated based on existing site data. During the design phase, EPA will collect data from new soil borings to further define the extent of contamination.

Ground-water Contamination and Long-term Monitoring

Several residents expressed concern about ground-water contamination remaining in the vicinity of the site. In particular, three residents requested information about long-term monitoring at the site. A resident asked if his nearby private well could be contaminated in the future. Another resident who owns property within the boundary of the site asked whether at some point following the site remediation, ground-water monitoring would no longer be required on her property.

- EPA explained the complex hydrogeology in the vicinity of the site and its potential affect on the area potable wells. Specifically, EPA assured the concerned resident that his well was not located in the same geologic formation as the contamination and it was unlikely that his well would be contaminated by the site. In addition, EPA said that wells in the vicinity of the site will be monitored as part of a proposed ground-water program and following the site Remedial Action.

  EPA did not provide a schedule for monitoring activities beyond the Remedial Action to area residents.

Cost of Remedial Alternative

A local offical asked for clarification from EPA about whether all costs for the selected remedy would be borne by the State of New Jersey and EPA.

- EPA explained that the costs of the design and construction of the remedial alternative will be shared by EPA and NJDEP. EPA is currently conducting investigations of and negotiations with potentially responsible parties about a cost recovery action.

Schedule for the Record of Decision

A resident asked when EPA would select the remedial alternative for the site. In addition, several residents were interested about whether the delay in reauthorization of the Superfund Program would affect the design and construction of the site remedy.

- EPA said that the Record of Decision (ROD) is scheduled to be signed June 30, 1986. EPA explained, however, that the agency cannot say when the cleanup action will begin without a reauthorized Superfund or an interim bill.

Impact of Hazardous Waste Contamination on Resale Values of Properties in the Vicinity of the Site

Two residents expressed concern about the impact of hazardous waste contamination on the resale value of their properties. These residents said that the proximity of a Superfund site had made it difficult to sell their properties to new owners. The residents expressed concern that residual contamination and/or long-term monitoring would prevent them from selling their properties in the future. Residents wanted assurance from EPA that the selected remedy would eliminate all contamination so that prospective buyers would consider normal market values for purchase of property near the site.

- EPA stated that all contaminated soils in concentrations above guidelines established by EPA and NJDEP will be excavated. The site soils will be returned to near background levels. EPA said that homeowners may also seek financial relief for lower property values under the New Jersey Spill Fund.

Proposed Housing Developments in the Vicinity of the Site

Several residents expressed concern about existing proposals for housing developments in the vicinity of the site. One resident asked whether EPA had the authority to impose a building moratorium in the area because of the possibility of new wells becoming contaminated before the selected remedy had been completed. Another resident asked the mayor why new development was being allowed in the Borough of Franklin when the municipality already has an inadequate water supply.

- EPA explained that it has no authority over local development. EPA said that the local zoning board has responsibility for decisions affecting local development. EPA said that local officials and residents have access to the results of the RI and other information collected during the RI/FS.

Potential Responsible Parties (PRPs) Involvement

Several residents asked who will pay for the cleanup of the site. One local official and a resident stressed that individuals who disposed of hazardous waste at the site should pay for the remediation of the site. One resident living near the site said that she had additional information including affidavits signed by three previous employees of the former Metaltec/Aerosystems facility providing further evidence about who is responsible for disposing hazardous waste at the site. The owner of the former Metaltec/Aerosystems facility stated that he had sent to EPA an information package documenting previous owners' disposal activities at the site as well as the disposal practices of his own facility.

- EPA currently is investigating all allegations of potential dumping in the area.

C. Summary of Outstanding Community Concerns

Although EPA representatives responded to many questions and concerns raised during the public meeting on the draft FS report, several key issues about the selected remedy were not yet resolved at the public meeting. These issues include:

Selected remedy. Because EPA did not announce a preferred alternative during the public comment period, residents and local officials will want to know which alternative is selected and why it was selected. In addition, residents and local officals will want to be informed about the following: (1) technologies used for treatment of ground water and soil; (2) disposal sites selected for excavated soil; (3) schedule for design and construction; and (4) a description of construction activities at the site, especially those activities that may affect nearby residents.

Contaminated ground water. Concerned residents and local officials will be interested in any additional ground-water data collected by EPA following the approval of the ROD. In addition, these interested citizens will want to know how the additional ground-water data affects the selected remedy and ROD.

Ground-water monitoring program. Residents remain concerned about the impact and/or potential impact of hazardous waste from the site on their private water wells and property. Several residents expressed an interest in selling their properties. These residents believe that property in the vicinity of the site will not be sold at market value unless new buyers believe that the selected remedy has been effective and complete.

Adequate source of safe drinking water. Local officals are responsible for providing Borough of Franklin citizens with a safe and adequate drinking water supply. As part of its selected remedy, EPA must ensure a safe drinking water supply that provides at least as much water as the supply that was lost due to contamination of the Borough of Franklin Water Supply Well. Residents and local officials will continue to express interest in the progress being made by EPA, the State of New Jersey, and the Borough of Franklin to identify an existing or alternate safe and cost-effective water supply source.

EPA considered the above outstanding community concerns voiced by residents and local officials during the public comment period prior to selecting a Remedial Action for the site. EPA has addressed these concerns by recommending the following:

- EPA will include Alternatives 5, 6 and 9 consisting of excavation, treatment and off-site disposal of Parcel 1 soils, and excavation and off-site disposal of Parcel 2,3 and 4 soils. A further ground-water investigation will be conducted to close the current data gaps in the RI/FS as well as an extended ground-water monitoring program pending the outcome of this additional study. - Finally, EPA will replace the lost water resource of 100,000 gallons/day by purchasing the water from a neighboring municipality.

- The selected remedy will effectively mitigate the contamination now present at the site as the soil contamination and ground-water contamination will be removed from the area's environment. A schedule for implementation of the remedy will be made public as soon as it becomes known. It must be noted that any activities at the site will not take place until the U.S. Congress reauthorizes the Superfund program or provides additional interim funding.

RP9/7

PLEASE SIGN IN

Metaltec/Aerospace Site
Public Meeting
6/17/86

	NAME	ADDRESS OR AFFILIATION
1.	FENTON P PURCELL	LEE T PURCELL ASSOC
2.	JAMES C DEMITRIUK	LEE T. PURCELL ASSOC.
3.	DOUGLAS C KISTLE & WIFE	176 Davis Rd FRANKLIN
4.	RALPH NIEVES	166 WILDCAT RD. FRANKLIN
5.	Joe Zoltek	217A Wildcat Rd Franklin
6.	BARRY P BOCCI	442 [illegible] BPW
7.	[illegible]	RDI Franklin
8.	Charles Fletcher	AEROSYSTEMS FRANKLIN N.J.
9.	STEPHEN R WILLIAT	RDI Box 204 FRANKLIN
10.	Patty Poucic	Steen Fields, 35 High St. Newton
11.	CHAS. F. BAIN	33 JENKINS RD., FRANKLIN
12.	Tommy Sauer	33 Jenkins Road Franklin
13.	Ronald Bassani	152 WILDCAT RD FRANK
14.	JEFFREY C FLETCHER	METALTEC CORP.
15.	DARREN ELG	ECLIPSE SYSTEMS
16.	George T. Ziegler	394 Ruthven Ave
17.	JEFFREY W. VERONA	22 JENKINS Rd. FRANKLIN N.
18.	David J. Williams	RD #1 Box 216 WILDCAT RD.
19.	Eileen Kopec	113 Davis Rd
20.	Elizabeth G. allen	24 Jenkins Rd.
21.	Richard K. Lynch	8 Edsall Rd.
22.	JOSEPH MAHER	NJDEP TRENTON NJ.
23.	Tom McNevin	NJDEP TRENTON NJ
24.	[illegible]	[illegible]
25.	James J. Mauro Comm	[illegible]
26.	Theresa A Hanson	Bos Council

PLEASE SIGN IN

Metaltec/Aerospace Site
Public Meeting
6/17/86

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Attachment #2: Written Public Comments

Rcvd 6/19

Ralph Nieves
106 Wildcat Road
Franklin, N.J. 07416

June 18, 1986

U.S. Environmental Protection Agency
Region II
26 Federal Plaza, Room 711
New York, N.Y. 10278
Att: Christine Schulz, Project Manager

Dear Ms. Schulz:

I wish to commend you and your staff for the excellent presentation and complete investigation done regarding the Metaltec/Aerosystems site, and presented at the Public Meeting held in the Borough of Franklin on June 17, 1986.

In as much as the areas have now been defined as contaminated parcels targeted for clean up, which excludes my property, I wish to know the E.P.A.'s comments to the following questions.

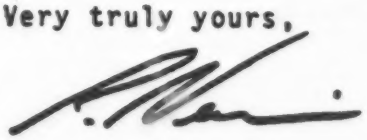
1. Depending on the alternative clean up of the area, what will be the length of time involved, and how early will the work begin?

2. Since my home now has an alternate water supply. how long will my private well be continued to be monitored by the E.P.A.?

3. From past history of cases the E.P.A.has handled, affecting private homeowners, will the present condition in the area have an impact on the market value of my home, and do you feel the home could still sell during the proposed clean up?

I would appreciate hearing from your office as soon as possible on these questions.

Very truly yours,



INCORPORATED MARCH 18, 1913

BOROUGH OF FRANKLIN

46 MAIN STREET
FRANKLIN, NEW JERSEY 07416

(201) 827-9280

WILLIAM J. HODAS
MAYOR

JAMES R. DOHE
CLERK/ADMINISTRA

June 26, 1986

Mr. Christopher J. Daggett
Regional Administrator
U.S. Environmental Protection Agency
26 Federal Plaza - Region II
New York, New York 10278

Re: Review and Comments on the Feasibility Study performed by USEPA, entitled, "Draft Feasibility Study Report for the the Metaltec/Aerostystems Site, Borough of Franklin, New Jersey"

Dear Mr. Daggett:

We have had the opportunity to review the Draft Feasibility Study and accompanying documents on the above-referenced project. A Public Hearing was held on June 17, 1986 in our Borough Hall, and we have asked our consulting engineers, Lee T. Purcell Associates to review the report and make appropriate comments. We wish to advise you that prior to issuance of a "Record of Decision" your staff should review and incorporate our Consultant's observations contained within their attached report entitled, "Engineering Report, Review of the Draft Feasibility Study Report for the Metaltec/Aerosystems Site, Borough of Franklin, New Jersey".

The Mayor and Council and the Board of Public Works of the Borough of Franklin, are vitally concerned that any remedial measures recommended and/or employed to reinstate our lost potable water supply should be on the basis of at least 200,000 gpd capability.

Further, that the cost estimates to affect the alternative of and interconnection with an adjacent community be updated to a minimum of $600,000.00 and the adjacent community should be contacted by USEPA and its consultants to determine what additional costs that community may incur to upgrade its system to affect this inter-connection alternative. The costs for the interconnection now contained within your documents are unrealistically low.

Finally if the Borough of Franklin is successful in developing additional groundwater sources of potable water quality, it is our understanding that costs associated with the development of these additional groundwater supplies will be fully eligible for grants under the Superfund Program.

The USEPA and its consultants should be commended on clearly stating a very difficult project within our community, and we look forward to the incorporation of our concerns in your "Feasibility Study" and "Record of Decision" as stated herein.

I have instructed our Consultants to be available to assist your staff to assure that there is a clear understanding of our concerns in this regard.

Very truly yours,

BOROUGH OF FRANKLIN

William J. Hodas

William J. Hodas, Mayor

WJH:
encl.
cc: John Frisco, USEPA
Christine Schulz, USEPA
Steven Neiswand, NJDEP
Vincent Monaco, NJDEP
Lee T. Purcell Associates.

ENGINEERING REPORT

REVIEW OF THE DRAFT FEASIBILITY STUDY REPORT

FOR THE METALTEC/AEROSYSTEMS SITE

BOROUGH OF FRANKLIN, NEW JERSEY

June, 1986

This office has been requested by the Board of Public Works and the Mayor and Council of the Borough of Franklin to review the above-mentioned report, particularly as it relates to the diminution of water supply capability of the water department due to contamination of the aquifer system from which the Maple Road well diverts water. There are several points which require clarification in the documentation presented by USEPA and its consultants:

1. The USEPA documents indicate the Borough has lost 100,000 gpd supply capability. This number is arrived at on the basis of reported pumping results. It should be assumed that USEPA and its consultants had the opportunity to review the results of a Diversion Rights Hearing held before the Water Policy and Supply Council on April 5, 1971 and that Council's subsequent approval was for diversion of 216,000 gpd from the well. It is our considered opinion that the Borough of Franklin has lost more nearly 200,000 gpd supply capability because of the contamination. This represents in excess of fifty (50%) percent of the Borough's current average daily demand. Therefore, any alternatives considered to replace lost potable water

production capability should be based upon 200,000 gpd and not 100,000 gpd.

2. The least costly alternative for replacing a portion of the water supply capability lost to the Borough of Franklin, due to contamination, is the so called, "interconnection" with the Borough of Hamburg (USEPA's Alternative 9). This office has verbally discussed the project cost estimates for this alternative with USEPA and its consultants. Further a letter was addressed to Mr. Daniel Bucko, Environmental Planner, Camp, Dresser and McKee, dated May 14, 1986 (copy attached), which indicates that the absolute minimum cost for this interconnection is $600,000.00. Further, this $600,000.00 does not include any potential upgrading of water facilities within Hamburg, which may be required for this interconnection. It is our opinion that the stated project cost of $363,000.00 (Tables 4-4 and 4-5) is unrealistically low for the work required.

3. There are no detailed line item estimates of cost for the investment and operation and maintenance costs for Alternatives 7 and 8. The costs provided are a total cost and appear to be extremely high based on our current experience with this type of treatment in the State of New Jersey. It is our understanding based on the Public Hearing that these breakdown of costs are to be provided to the Borough by USEPA.

A Public Hearing was held at the Borough Hall, on June 17, 1986, beginning at 7:00 p.m. The following points of major concern regarding

Franklin's water supply capability were raised by Borough officials and representatives of Lee T. Purcell Associates. These points are in addition to Items 1,2, and 3 above:

1. The question was raised about the possibility of the Borough developing additional groundwater supply for use as potable water sources and if this alternative is not recognized officially in the USEPA "Record of Decision", will the costs associated with developing these alternative groundwater supplies be fully eligible for grants from "Superfund"? The USEPA officials present at the Hearing indicated that these costs would be fully eligible under the Superfund program and further that the "Record of Decision" can be amended.
2. USEPA representatives agreed at the Hearing that they would participate in negotiations between the Borough of Hamburg and the Borough of Franklin regarding the interconnection between the communities.
3. When asked about additional testing and preliminary costs which may be associated with utilizing the so called, "open cut" as an emergency supplemental supply, USEPA officials said that these costs would not be eligible for Superfund funding.
4. USEPA officials indicated that notwithstanding the discrepancy in estimates of cost to affect the interconnection, USEPA would pay for the actual cost of the project under the Superfund program.

Other items of minor importance which should be corrected prior to final issuance of the Feasibility Study are as follows:

1. The sewage pumping station referred to on Page 1-9 of Volume 1, Draft Feasibility Study Report, refers to the sewage pumping station capacity as being 1 MGD and that it is owned by the Sussex County Municipal Utilities Authority (SCMUA). The station is owned by the Borough of Franklin, but more importantly the design capacity is 216,000 gpd and cognizance should be taken of this fact before any discharges are made to the station as a result of dewatering operations.

2. We are unaware of the location of the so called, "Hamburg Well Site" near the Franklin border which is supposedly capable of producing 1,000 gpm (Page 2-38 of Volume 1, Draft Feasibility Study Report). Any information regarding this site should be made available to the Borough immediately.

3. Page 2-43 under Inorganic Removal/Precipitation, the term VOC on the last line is incorrect.

These last three (3) items are of minor consequence and are mentioned solely for clarification purposes.

* * * * * * *

As I stated during the Public Hearing on June 17, 1986, the USEPA and its consultants have adequately documented a very difficult situation in the Borough of Franklin. The only items of substance, which in our opinion should be changed, are the quantity of potable water lost to the Borough of Franklin as a result of the groundwater

contamination, the estimates of cost to affect the interconnection with the Borough of Hamburg, and the fact that if additional sources of potable groundwater are developed by the Borough all costs associated with implementing these supplies will be fully eligible under this Superfund Program.

Respectfully submitted,

LEE T. PURCELL ASSOCIATES

Fenton P. Purcell, P.E.
Principal

FPP:as
attachment

Mr. Nieves concerns at the site were voiced at the Public Meeting held on June 17. His comments are addressed in the Responsiveness Summary and a letter will be sent to him personally addressing these comments.

The Borough of Franklin has independently hired a water and sewer consulting firm, Lee T. Purcell Associates who reviewed the Draft Feasibility Study Report. Purcell's "Engineering Report Review of the Draft Feasibility Study Report for the Metaltec/Aerosystems site Borough of Franklin, New Jersey, June 1986" was transmitted by the Mayor of Franklin in a letter to Christopher Daggett, dated June 26, 1986. EPA's response to the report follows:

Comment 1 -

The 100,000 gpd figure was arrived at based on a review of well graphs of the pumping rates of the Maple Road Well. It is felt that this is an approximate figure of the water useage from the well when it was active. However, a more thorough review of well logs will be conducted if the Borough would supply this information. In addition, the results of the Diversion Rights Hearing held before the Water Policy and Supply Council on April 5, 1971 will be reviewed.

Comment 2 -

The costs associated with the interconnection of the Borough of Hamburg have been estimated by our consultants Camp Dresser and McKee. We will investigate the decrepency between Purcells and CDM estimates, however the actual cost of the bid of the water main will be funded.

Comment 3 -

The breakdown of the costs of alternatives number 7 and 8 will be supplied to the Borough of Franklin.

The Engineering Report continues by addressing concerns voiced at the public meeting. The concerns of the public voiced at the Public Meeting have been summarized and have been addressed in the Responsiveness Summary (Attachment #1). However, one of the statements made by Lee T. Purcell Associates are in error. Namely, Comment # 2, stating "USEPA representatives agreed at the hearing that they would participate in negotiations between the Borough of Hamburg and the Borough of Franklin regarding the interconnection between the communities." EPA will not take an active role in the negotiations but will inform the New

Jersey Division of Water Resources and the Borough of Hamburg of our assessment and decision to choose of this remedial action in response to the water resource lost to the Borough of Franklin as a result of the Metaltec Site.

Editorial comments made in regard to the Draft Feasibility Study will be made accordingly.